SERVICE MANUAL

ELECTRONIC STAND-ALONE LOCKS

SERVICE MANUAL

B.A.S.I.S. LOCKS
KEYPAD EZ LOCKS

BEST ACCESS SYSTEMS

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1 GETTING STARTED

INTRODUCTION

The *Electronic Stand-Alone Locks Service Manual* contains essential information to help you maintain your B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim, as well as your Keypad EZ Locks and Keypad EZ Exit Hardware Trim. Throughout this manual, the term *standard B.A.S.I.S. Locks* is used to refer to 35HG and 35HBV Mortise Locks as well as 93KG–95KG and 93KBV–95KBV Cylindrical Locks. The term *standard Keypad EZ Locks* refers to 35HZ Mortise Locks and 93 KZ–95KZ Cylindrical Locks.

The term *Electronic Stand-Alone Exit Hardware Trim* refers to EXG, EXBV and EXZ Exit Hardware Trim. B.A.S.I.S. EX Series Exit Hardware Trim and Keypad EZ Exit Hardware Trim are available for use with the following types of exit devices manufactured by Precision Hardware (1000 Series and 2000 Series) and Von Duprin (98/99 Series):

- rim
- mortise
- surface vertical rod
- concealed vertical rod.

B.A.S.I.S. EX Series Exit Hardware Trim and Keypad EZ Exit Hardware Trim also are available for use with the Sargent (8800 Series) rim exit device.

Standard Keypad EZ Locks and Keypad EZ Exit Hardware Trim have keypad readers. Standard B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim are available with the following types of readers:

- magnetic stripe card readers
- smart card readers
- dual validation (magnetic stripe card/keypad) readers
- Motorola and HID proximity card readers (standard B.A.S.I.S. V Locks and B.A.S.I.S. V EX Series Exit Hardware Trim only).

B.A.S.I.S. PRODUCT OVERVIEW

System overview

Figure 1.1 shows the components of the B.A.S.I.S. system. The table below defines each of the components in the system.

Components	Definition
Magnetic stripe electronic lock	A battery-powered, self-contained, programmable lock that uses standard magnetic stripe cards and controls access to a door.
Smart card electronic lock (not shown)	A battery-powered, self-contained, programmable lock that uses smart cards and controls access to a door.
Dual validation electronic lock (not shown)	A battery-powered, self-contained, programmable lock that uses standard magnetic stripe cards and PINs, and controls access to a door.
Proximity card electronic lock (not shown)	A battery-powered, self-contained, programmable lock that uses proximity cards and controls access to a door. Available only for standard B.A.S.I.S. V Locks and B.A.S.I.S. V EX Series Exit Hardware Trim.
Exit hardware trim (not shown)	B.A.S.I.S. escutcheon assembly (including B.A.S.I.S. reader and control electronics) and external battery compartment used with mortise, rim, concealed vertical rod, and surface vertical rod exit hardware (panic) devices.
Programming cable	A cable for connecting B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim to the serial cable.
Serial cable	A cable for connecting the programming cable to the PDA.
PDA running B.A.S.I.S. Transport software	Device that lets you transfer reader configurations from B.A.S.I.S. System Administration to the locks, transfer history records from B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim to System Administration, and view diagnostics information for B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim.
B.A.S.I.S. software	Software that lets you define programming settings and the user database for groups of locks, as well as individual locks. The software lets you view and print information about locks at any time.
Magnetic stripe card encoder	Device that reads, encodes, and erases information on a magnetic stripe card.
Smart card encoder (not shown)	Device that reads, encodes, and erases information on a smart card.
Access card	A card containing identification information. A card is given to a user and is similar to a key, letting the user gain access to a controlled area.

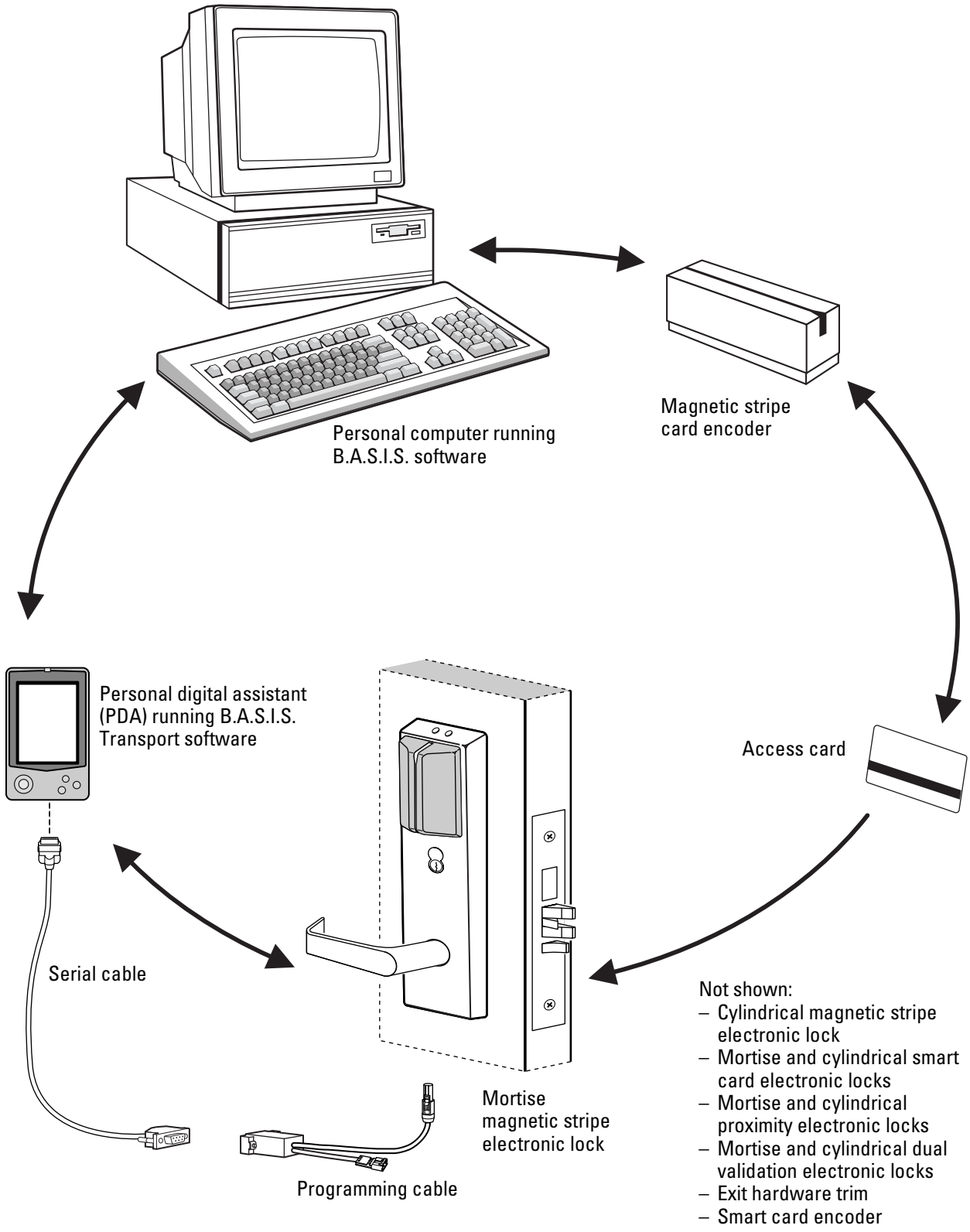


Figure 1.1 System overview diagram

Mortise lock overview

The diagram below shows an exploded view of the components of the B.A.S.I.S. Mortise Lock, indicating their orientation to the door.

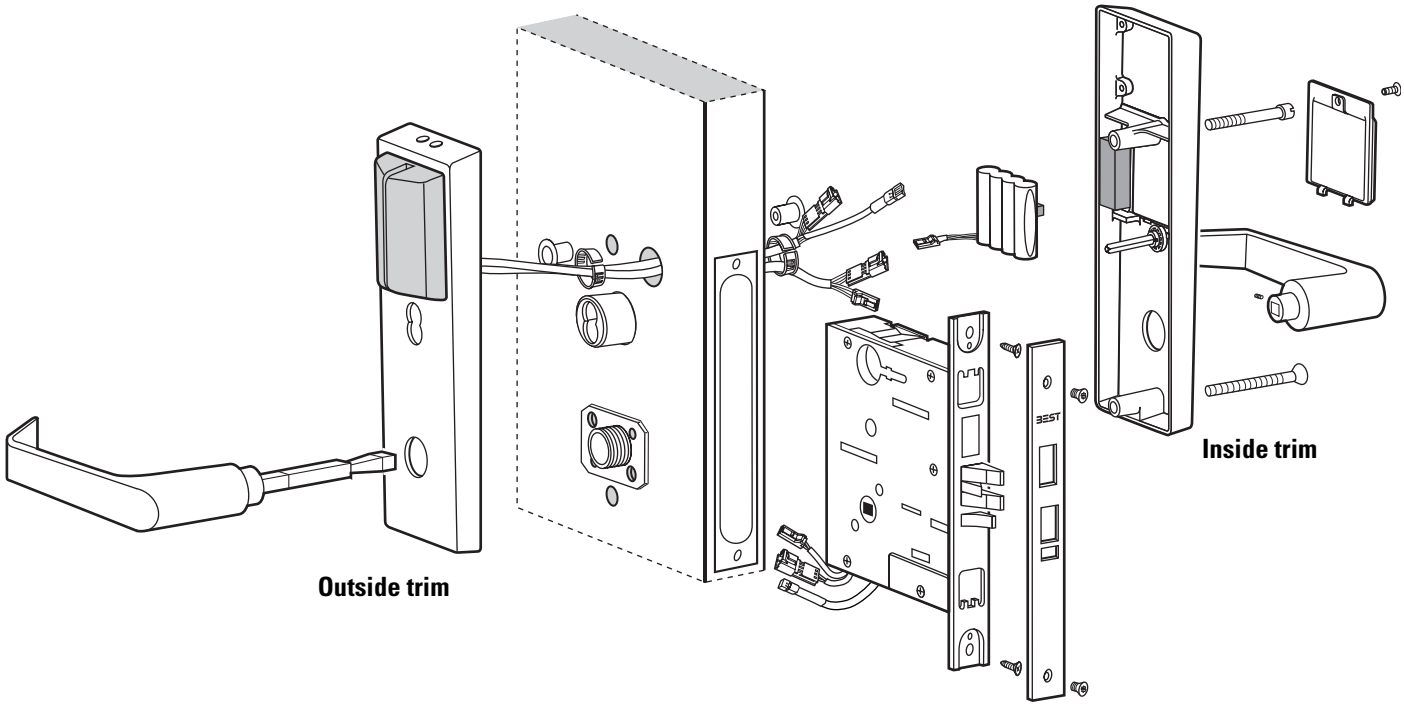


Figure 1.2 Mortise lock overview diagram

Cylindrical lock overview

The diagram below shows an exploded view of the components of the B.A.S.I.S. Cylindrical Lock, indicating their orientation to the door.

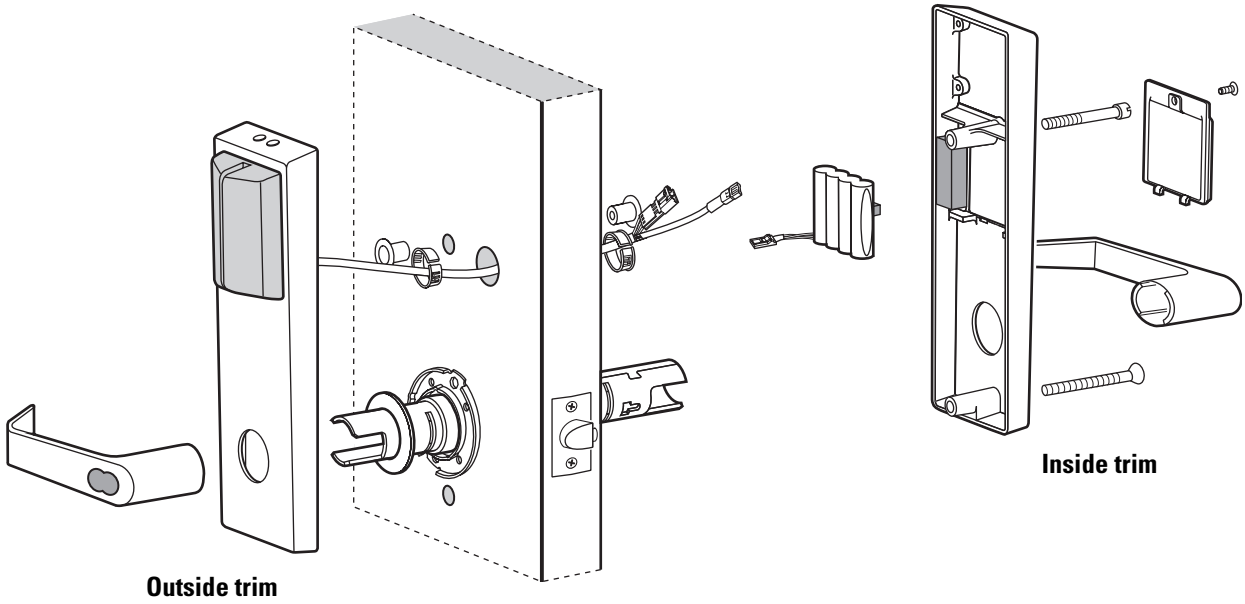


Figure 1.3 Cylindrical lock overview diagram

KEYPAD EZ PRODUCT OVERVIEW

System overview

Standard Keypad EZ Locks and Keypad EZ Exit Hardware Trim are programmed and accessed directly from the keypad. No additional components are necessary.

Mortise lock overview

The diagram below shows an exploded view of the components of the Keypad EZ Mortise Lock, indicating their orientation to the door.

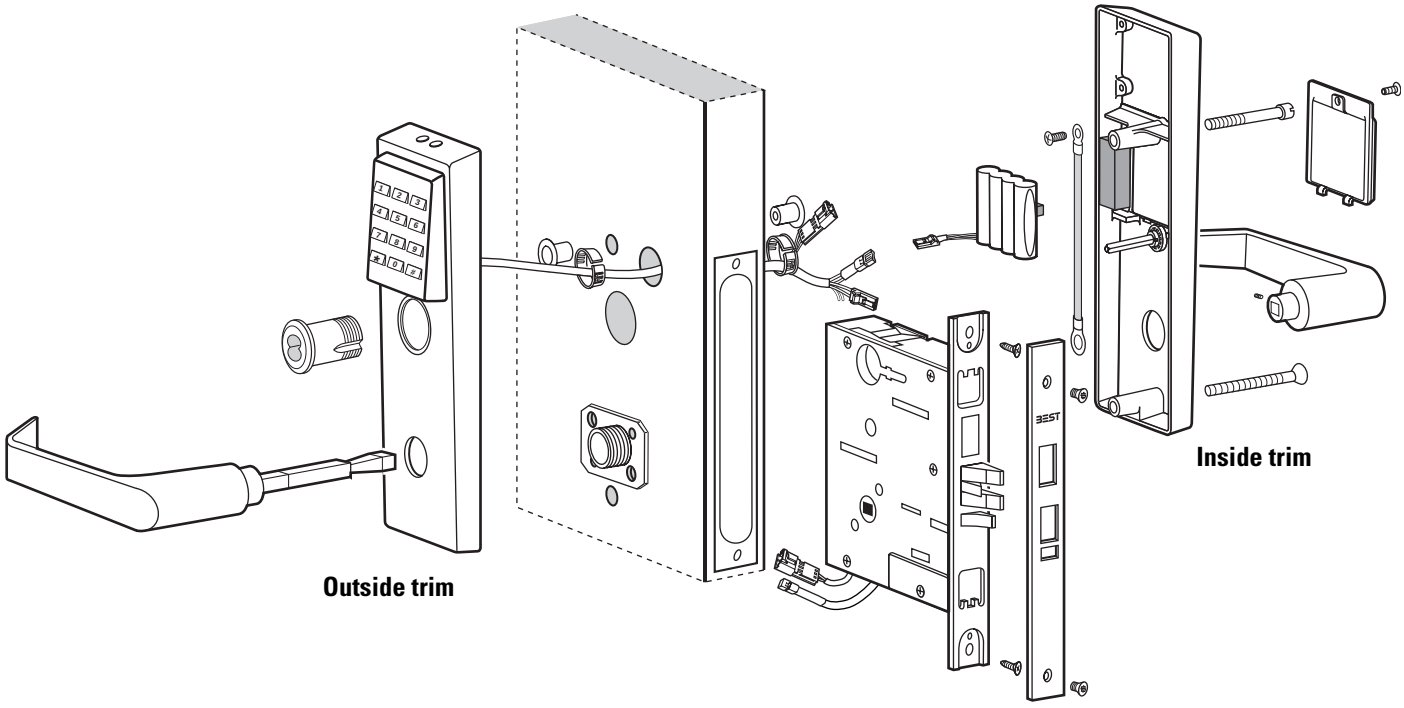


Figure 1.4 Mortise lock overview diagram

Cylindrical lock overview

The diagram below shows an exploded view of the components of the Keypad EZ Cylindrical Lock, indicating their orientation to the door.

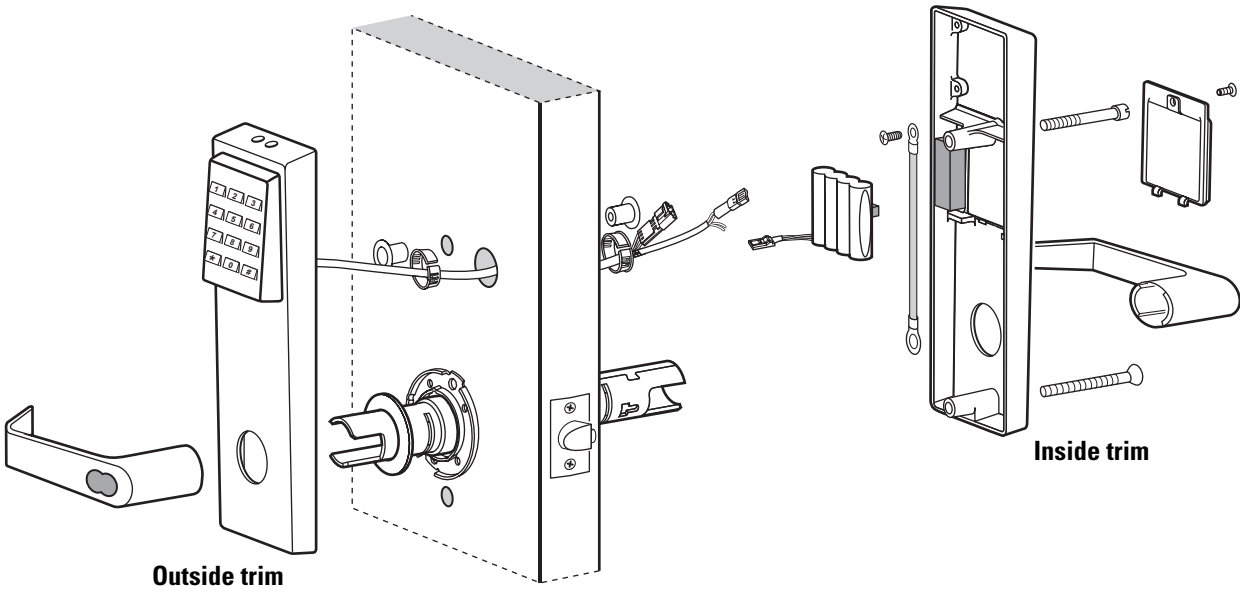


Figure 1.5 Cylindrical lock overview diagram

CERTIFICATIONS AND STANDARDS

Standard Electronic Stand-Alone Locks

9KG, 9KBV and 9KZ Locks, as well as 35HG, 35HBV and 35 HZ Locks, comply with the following standards:

- FCC and Canadian EMC requirements
- UL10C Positive Pressure Fire Test of Door Assemblies
- ANSI 156.25 Electrified Locking Devices.

Mortise locks

- The strike, lock case, and faceplate dimensions fit the standard door frame cutout as specified in ANSI A115.1.
- The 35H Locks meet or exceed ANSI A156.13, Series 1000, Grade 1 Operational, and Grade 2 Security standards.
- The 35H Locks are certified in the Builders Hardware Manufacturers Association Directory.
- The #3, #14 and #15 lever handles conform to California Administrative Code Title 19 and Title 24.

Cylindrical locks

- The 9K Locks comply with ANSI A156.2, Series 4000 Grade 1 standards.
- The chassis conforms to ANSI A115.2.
- The #14 and #15 lever handles conform to California Administrative Code Title 19 and Title 24.
- The #14, #15 and #16 lever handles conform to the Illinois Accessibility Standard.

Exit hardware trim

- The Electronic Stand-Alone Exit Hardware Trim complies with FCC and Canadian EMC requirements.
- The Electronic Stand-Alone Exit Hardware Trim meets ANSI/BHMA A156.3 for panic devices.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your Electronic Stand-Alone Locks.

The installation and upgrade instructions also can be ordered separately:

Document Title	Doc. No.
Installation Instructions for Electronic Stand-Alone Cylindrical Locks†	T61835
Installation Instructions for Electronic Stand-Alone Mortise Locks†	T61836
Installation Instructions for Electronic Stand-Alone EX Series Exit Hardware Trim†	T61828
Installation Instructions for Keypad EZ Remote Unlock	T80922
Instructions for Upgrading V Series Locks to B.A.S.I.S. Locks	T61837

†. These installation instructions are included in this manual. See *Installation Instructions* (page B–1).

The templates and specifications required for lock and exit hardware trim installations also can be ordered separately:

Document Title	Doc. No.
G01 Template; Installation Specifications for 93KG, 93KBV, and 93KZ Cylindrical Locks with Small Strike	T63305
G02 Template; Installation Specifications for 93KG, 93KBV, and 93IZ Cylindrical Locks with Large Strike	T63310
G03 Template; Installation Specifications for 35HG, 35HBV, and 93KZ Mortise Locks	T63306
G04 Template; Hole Pattern Chart for 35HG, 35HBV, and 35 HZ Mortise Locks	T63311
G05 Template; Installation Template for 93KG, 93KBV, and 93 KZ Cylindrical Locks	T63303
G06 Template; Installation Template for 35HG, 35HBV, and 35 HZ Mortise Locks	T63304
G07 Template; Installation Template for EXG, EXBV, and EXZ Exit Hardware Trim for Use with Von Duprin 98/99 Series Locks	T61824

Document Title	Doc. No.
G08 Template; Installation Template for EXG, EXBV, and EXZ Exit Hardware Trim for Use with Precision Hardware 1000/2000 Series and Sargent 8800 Series Locks	T61825
G09 Installation Specification for EXG, EXBV, and EXZ Exit Hardware Trim for Use with Von Duprin 98/99 Series Locks	T61826
G10 Installation Specification for EXG, EXBV, and EXZ Exit Hardware Trim for Use with Precision Hardware 1000/2000 Series and Sargent 8800 Series Locks	T61827

The service manuals referred to in this manual also can be ordered separately:

Document Title	Doc. No.
H Series Service Manual	T61964
9K Series Service Manual	T56082
8K Series Service Manual	T56081

The BEST documents for the B.A.S.I.S. software also can be ordered separately:

Document Title	Doc. No.
B.A.S.I.S. G Getting Started Guide	T63308
B.A.S.I.S. Transport User's Guide	T63307
B.A.S.I.S. Offline Setup Guide	T80946

The Keypad EZ programming documents also can be ordered separately:

Document Title	Doc. No.
EZ Series Keypad EZ Lock Programming Guide	T80911
Keypad EZ Quick Reference	T80912
Managing Keypad EZ User PINs	T80941

TECHNICAL SUPPORT

Support services

When you have a problem with an Electronic Stand-Alone Lock or Exit Hardware Trim, your first resource for help is the *Electronic Stand-Alone Locks Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for all Electronic Stand-Alone products. You may locate the Representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page www.BestAccess.com.

2 STANDARD FUNCTIONS AND PARTS

The following pages contain function descriptions for all standard Electronic Stand-Alone Locks. This chapter also includes exploded diagrams that show all field-serviceable mechanical parts, diagrams of trim and other miscellaneous parts, as well as trim and reader conversion information.

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- mortise
- cylindrical.

Mortise functions

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each standard Electronic Stand-Alone mortise function.

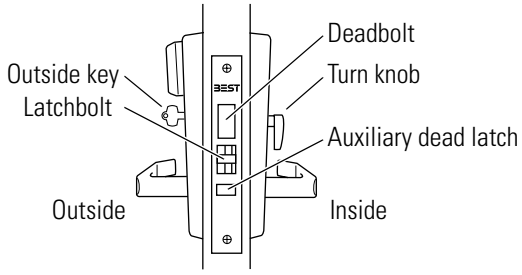
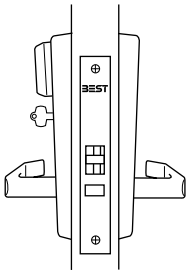


Figure 2.1 Understanding mortise function drawings

EV–Latchbolt with key override



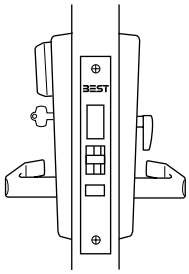
Latchbolt operated by:
- outside key
- outside lever—unless locked by internal motor drive mechanism
- inside lever

Outside lever locked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Outside lever unlocked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Inside lever is always unlocked

FV–Deadbolt with key override



Latchbolt operated by:
- outside key
- outside lever—unless locked by internal motor drive mechanism
- inside lever

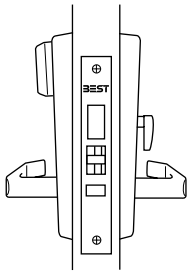
Latchbolt deadlocked by auxiliary latch

Deadbolt operated by:
- outside key
- inside turn-knob
- outside lever when lever is unlocked by internal motor drive mechanism (retracts only)
- inside lever (retracts only)

Outside lever locked and unlocked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN (if deadbolt is thrown, deadbolt override privilege is required)

Inside lever is always unlocked

LV–Deadbolt without key override



Latchbolt operated by:
- outside lever—unless locked by internal motor drive mechanism
- inside lever (deadlocked by auxiliary latch)

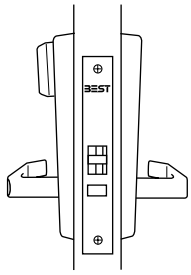
Latchbolt deadlocked by auxiliary latch

Deadbolt operated by:
- inside turn–knob
- outside lever when lever is unlocked by internal motor drive mechanism (retracts only)
- inside lever (retracts only)

Outside lever locked and unlocked by:
- internal motor drive mechanism operated by time–activated electronic signal or by valid card/PIN (if deadbolt is thrown, deadbolt override privilege is required)

Inside lever is always unlocked

NV–Latchbolt without key override



Latchbolt operated by:
- outside lever—unless locked by internal motor drive mechanism
- inside lever

Outside lever locked by:
- internal motor drive mechanism operated by time–activated electronic signal or by valid card/PIN

Outside lever unlocked by:
- internal motor drive mechanism operated by time–activated electronic signal or by valid card/PIN

Inside lever is always unlocked

Cylindrical function

The following list describes how the latchbolt, outside lever, and inside lever operate for the standard Electronic Stand-Alone cylindrical function.

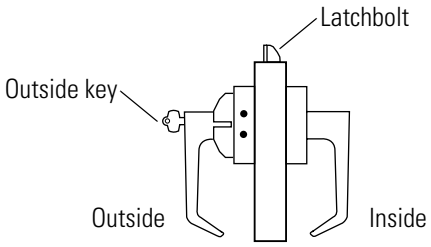
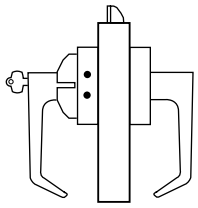


Figure 2.2 Understanding the cylindrical function drawing

DV–Latchbolt with key override



Latchbolt operated by:
- outside key
- outside lever—unless locked by internal motor drive mechanism
- inside lever

Outside lever locked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Outside lever unlocked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Inside lever is always unlocked

TRIM COMPONENTS
B.A.S.I.S. MAGNETIC STRIPE READER AND TRIM EXPLODED DIAGRAM

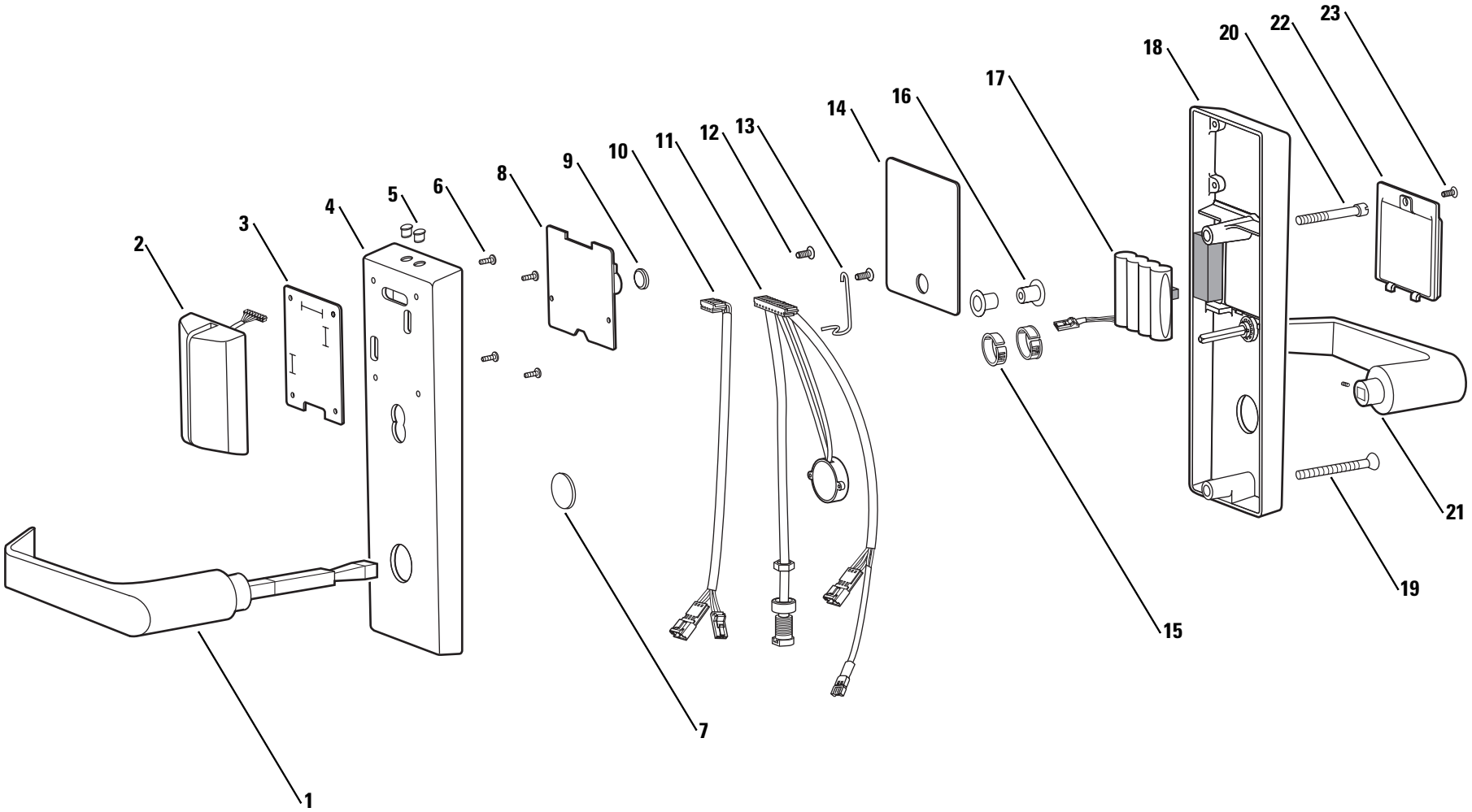


Figure 2.3 B.A.S.I.S. magnetic stripe reader and trim exploded diagram (mortise shown)

B.A.S.I.S. magnetic stripe reader and trim parts list

Refer to Figure 2.3 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	A35455	1	#15 outside lever assembly[a] (mortise locks) *or*
not shown	B55168	1	#15 keyed lever handle[b] (cylindrical locks)
2	See magnetic stripe reader kits (page 4–4)	1	Magnetic stripe reader
3	B60321	1	Reader gasket
4	D62506	1	35HG/35HBV outside escutcheon with key (EV and FV functions) *or*
not shown	D62508	1	35HG/35HBV outside escutcheon for use with non-BEST cores (EV and FV functions) *or*
not shown	D62505	1	35HG/35HBV outside escutcheon without key (LV and NV functions) *or*
not shown	D62507	1	9KG/9KBV outside escutcheon assembly (DV function)
5	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
6	See screw kits (page 4–7)	4	Reader assembly mounting screw
7	See primary harness kit (page 4–7)	1	Tape for mounting the sounder
8	See magnetic stripe control electronics kit (page 4–5)	1	Magnetic stripe control electronics board assembly (with backup battery)
9	See backup battery kit (page 4–6)	1	Backup battery
10	See sensor harness kit (page 4–7)	1	Sensor harness
11	See primary harness kit (page 4–7)	1	Primary harness
12	See screw kits (page 4–7)	2	Electronics board mounting screw
13	B63294	1	Harness clamp
14	A60800	1	Outside escutcheon gasket
15	1818846	2	Bushing
16	B61439	2	Trim hole insert
17	B60726	1	Battery pack *or*
not shown	B62101	1	Eight-cell battery pack[c]
18	C80894	1	35HG/35HBV inside escutcheon with turn knob[d] (FV and LV functions) *or*
not shown	D62104	1	35HG/35HBV inside escutcheon without turn knob for (EV and NV functions) *or*
not shown	D62102	1	9KG/9KBV inside escutcheon (DV function)

Item	Part No.	Qty.	Part
19	See screw kits (page 4–7)	1	Lower escutcheon screw
20	See screw kits (page 4–7)	1	Upper escutcheon screw
21	A35454	1	#15 inside lever assembly[a] (mortise locks) *or*
not shown	D55169	1	#15 plain lever handle[b] (cylindrical locks)
22	B62128	1	Battery door
not shown	B62101	1	Eight-cell battery door[c]
23	See screw kits (page 4–7)	1	Battery door screw (TORX with post head) *or*
not shown	See screw kits (page 4–7)	1	Battery door screw (McGard head) *or*
not shown	A34087	1	Battery door screw (Phillips head)

a. See the *H Series Service Manual* for other lever styles.
b. See the *9K Series Service Manual* for other lever styles.
c. If you need to upgrade to the eight-cell battery pack and door, see the Eight-Cell Battery Upgrade kit on page 4–6.
d. This item includes the battery door.

B.A.S.I.S. SMART CARD READER AND TRIM EXPLODED DIAGRAM

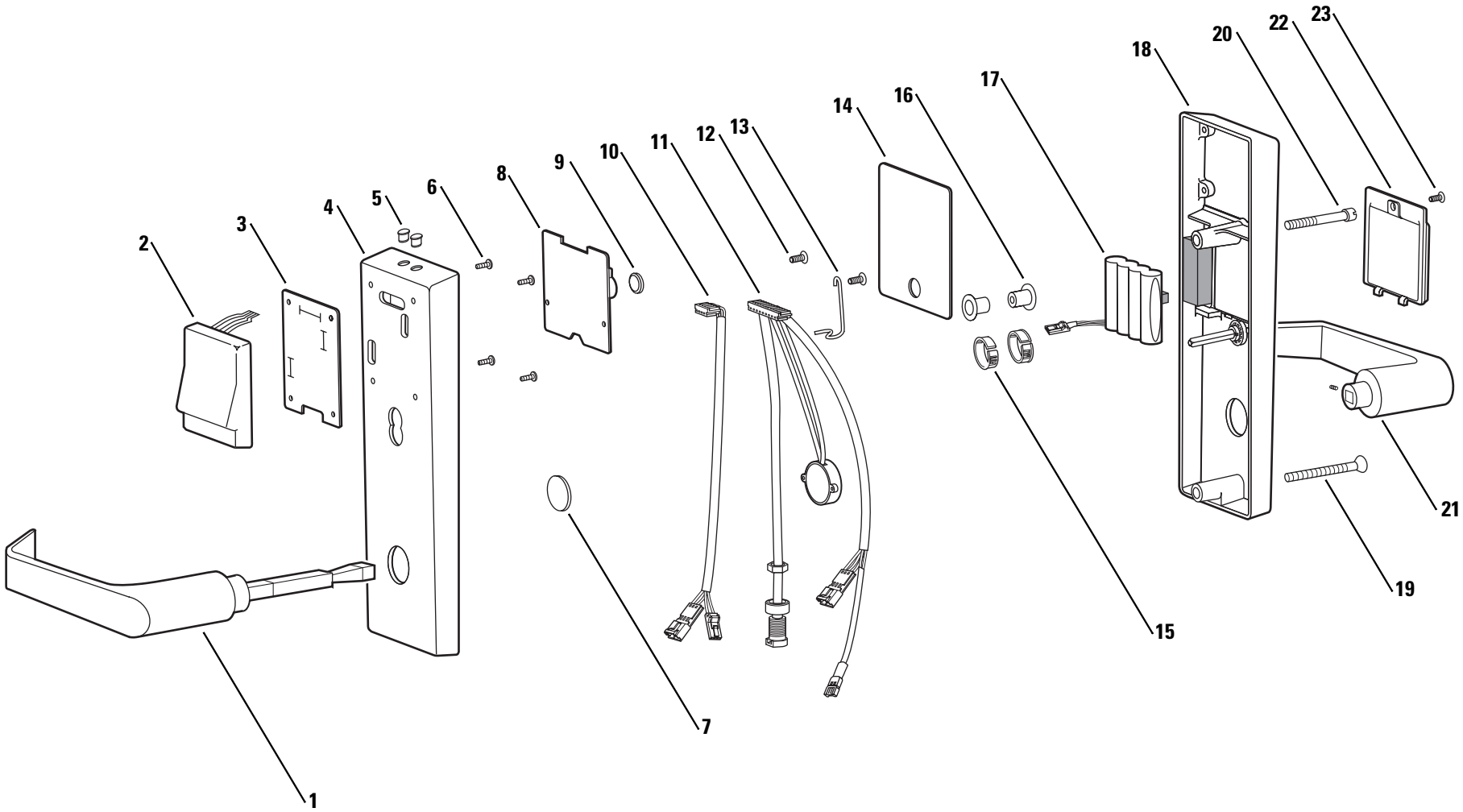


Figure 2.4 B.A.S.I.S. smart card reader and trim exploded diagram (mortise shown)

B.A.S.I.S. smart card reader and trim parts list

Refer to Figure 2.4 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	A35455	1	#15 outside lever assembly[a] (mortise locks) *or*
not shown	B55168	1	#15 keyed lever handle[b] (cylindrical locks)
2	See smart card reader kit (page 4–4)	1	Smart card reader
3	B60321	1	Reader gasket
4	D62506	1	35HG/35HBV outside escutcheon with key (EV and FV functions) *or*
not shown	D62508	1	35HG/35HBV outside escutcheon for use with non-BEST cores (EV and FV functions) *or*
not shown	D62505	1	35HG/35HBV outside escutcheon without key (LV and NV functions) *or*
not shown	D62507	1	9KG/9KBV outside escutcheon assembly (DV function)
5	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
6	See screw kits (page 4–7)	4	Reader assembly mounting screw
7	See primary harness kit (page 4–7)	1	Tape for mounting the sounder
8	See smart card control electronics kit (page 4–5)	1	Smart card control electronics board assembly (with backup battery)
9	See backup battery kit (page 4–6)	1	Backup battery
10	See sensor harness kit (page 4–7)	1	Sensor harness
11	See primary harness kit (page 4–7)	1	Primary harness
12	See screw kits (page 4–7)	2	Electronics board mounting screw
13	B63294	1	Harness clamp
14	A60800	1	Outside escutcheon gasket
15	1818846	2	Bushing
16	B61439	2	Trim hole insert
17	B60726	1	Battery pack *or*
not shown	B62101	1	Eight-cell battery pack[c]
18	C80894	1	35HG/35HBV inside escutcheon with turn knob[d] (FV and LV functions) *or*
not shown	D62104	1	35HG/35HBV inside escutcheon without turn knob for (EV and NV functions) *or*
not shown	D62102	1	9KG/9KBV inside escutcheon (DV function)

Item	Part No.	Qty.	Part
19	See screw kits (page 4–7)	1	Lower escutcheon screw
20	See screw kits (page 4–7)	1	Upper escutcheon screw
21	A35454	1	#15 inside lever assembly[a] (mortise locks) *or*
not shown	D55169	1	#15 plain lever handle[b] (cylindrical locks)
22	B62128	1	Battery door
not shown	B62101	1	Eight-cell battery door[c]
23	See screw kits (page 4–7)	1	Battery door screw (TORX with post head) *or*
not shown	See screw kits (page 4–7)	1	Battery door screw (McGard head) *or*
not shown	A34087	1	Battery door screw (Phillips head)

a. See the *H Series Service Manual* for other lever styles.
b. See the *9K Series Service Manual* for other lever styles.
c. If you need to upgrade to the eight-cell battery pack and door, see the Eight-Cell Battery Upgrade kit on page 4–6.
d. This item includes the battery door.

B.A.S.I.S. DUAL VALIDATION READER AND TRIM EXPLODED DIAGRAM

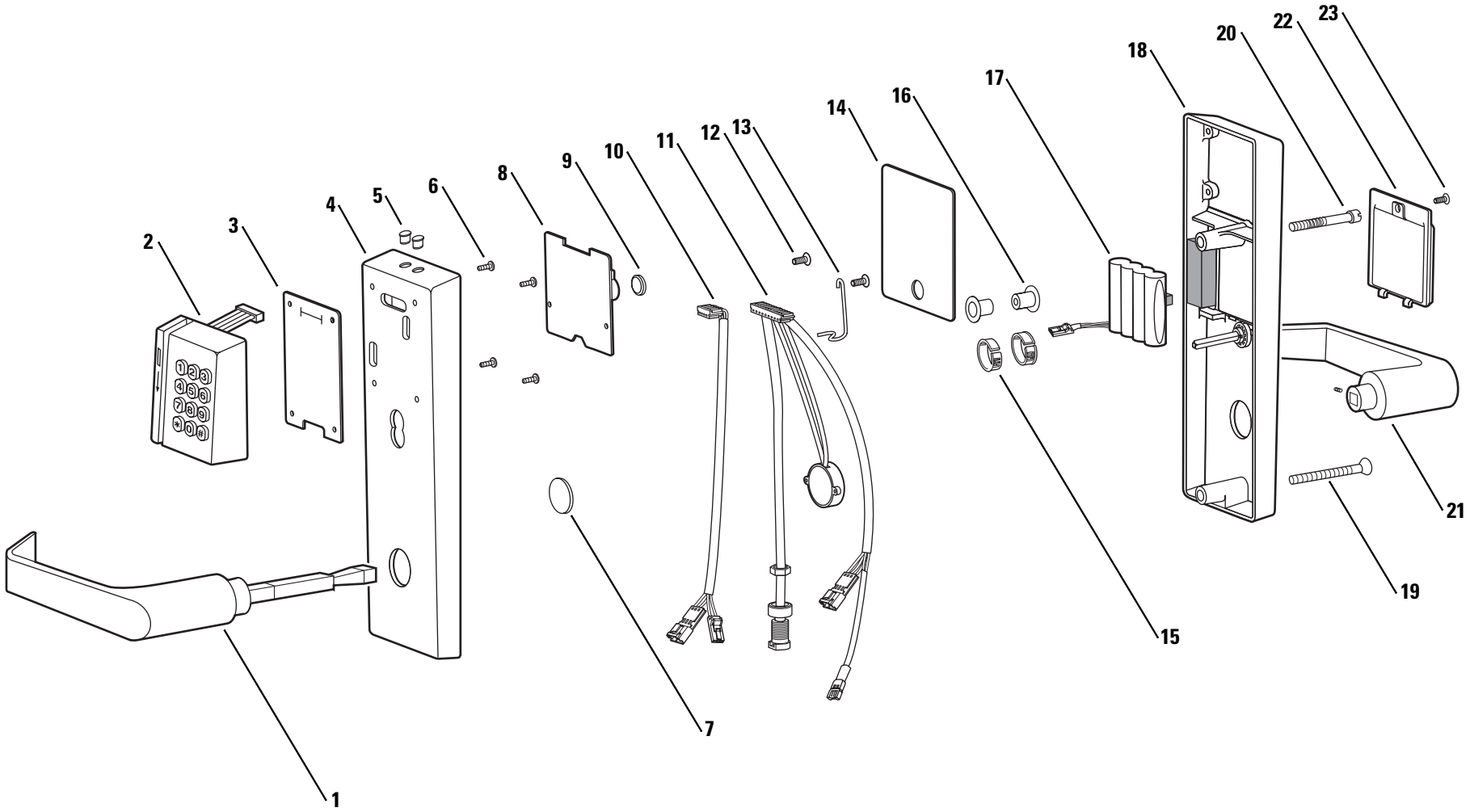


Figure 2.5 B.A.S.I.S. dual validation reader and trim exploded diagram (mortise shown)

B.A.S.I.S. dual validation reader and trim parts list

Refer to Figure 2.5 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	A35455	1	#15 outside lever assembly[a] (mortise locks) *or*
not shown	B55168	1	#15 keyed lever handle[b] (cylindrical locks)
2	See dual validation reader kits (page 4–4)	1	Dual validation reader
3	B60321	1	Reader gasket
4	D62506	1	35HG/35HBV outside escutcheon with key (EV and FV functions) *or*
not shown	D62508	1	35HG/35HBV outside escutcheon for use with non-BEST cores (EV and FV functions) *or*
not shown	D62505	1	35HG/35HBV outside escutcheon without key (LV and NV functions) *or*
not shown	D62507	1	9KG/9KBV outside escutcheon assembly (DV function)
5	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
6	See screw kits (page 4–7)	4	Reader assembly mounting screw
7	See primary harness kit (page 4–7)	1	Tape for mounting the sounder
8	See dual validation control electronics kit (page 4–5)	1	Dual validation control electronics board assembly (with backup battery)
9	See backup battery kit (page 4–6)	1	Backup battery
10	See sensor harness kit (page 4–7)	1	Sensor harness
11	See primary harness kit (page 4–7)	1	Primary harness
12	See screw kits (page 4–7)	2	Electronics board mounting screw
13	B63294	1	Harness clamp
14	A60800	1	Outside escutcheon gasket
15	1818846	2	Bushing
16	B61439	2	Trim hole insert
17	B60726	1	Battery pack *or*
not shown	B62101	1	Eight-cell battery pack[c]
18	C80894	1	35HG/35HBV inside escutcheon with turn knob[d] (FV and LV functions) *or*

Item	Part No.	Qty.	Part
not shown	D62104	1	35HG/35HBV inside escutcheon without turn knob for (EV and NV functions) *or*
not shown	D62102	1	9KG/9KBV inside escutcheon (DV function) *or*
19	See screw kits (page 4–7)	1	Lower escutcheon screw
20	See screw kits (page 4–7)	1	Upper escutcheon screw
21	A35454	1	#15 inside lever assembly[a] (mortise locks) *or*
not shown	D55169	1	#15 plain lever handle[b] (cylindrical locks)
22	B62128	1	Battery door
not shown	B62101	1	Eight-cell battery door[c]
23	See screw kits (page 4–7)	1	Battery door screw (TORX with post head) *or*
not shown	See screw kits (page 4–7)	1	Battery door screw (McGard head) *or*
not shown	A34087	1	Battery door screw (Phillips head)

a. See the *H Series Service Manual* for other lever styles.
b. See the *9K Series Service Manual* for other lever styles.
c. If you need to upgrade to the eight-cell battery pack and door, see the Eight-Cell Battery Upgrade kit on page 4–6.
d. This item includes the battery door.

B.A.S.I.S. V PROXIMITY READER AND TRIM EXPLODED DIAGRAM

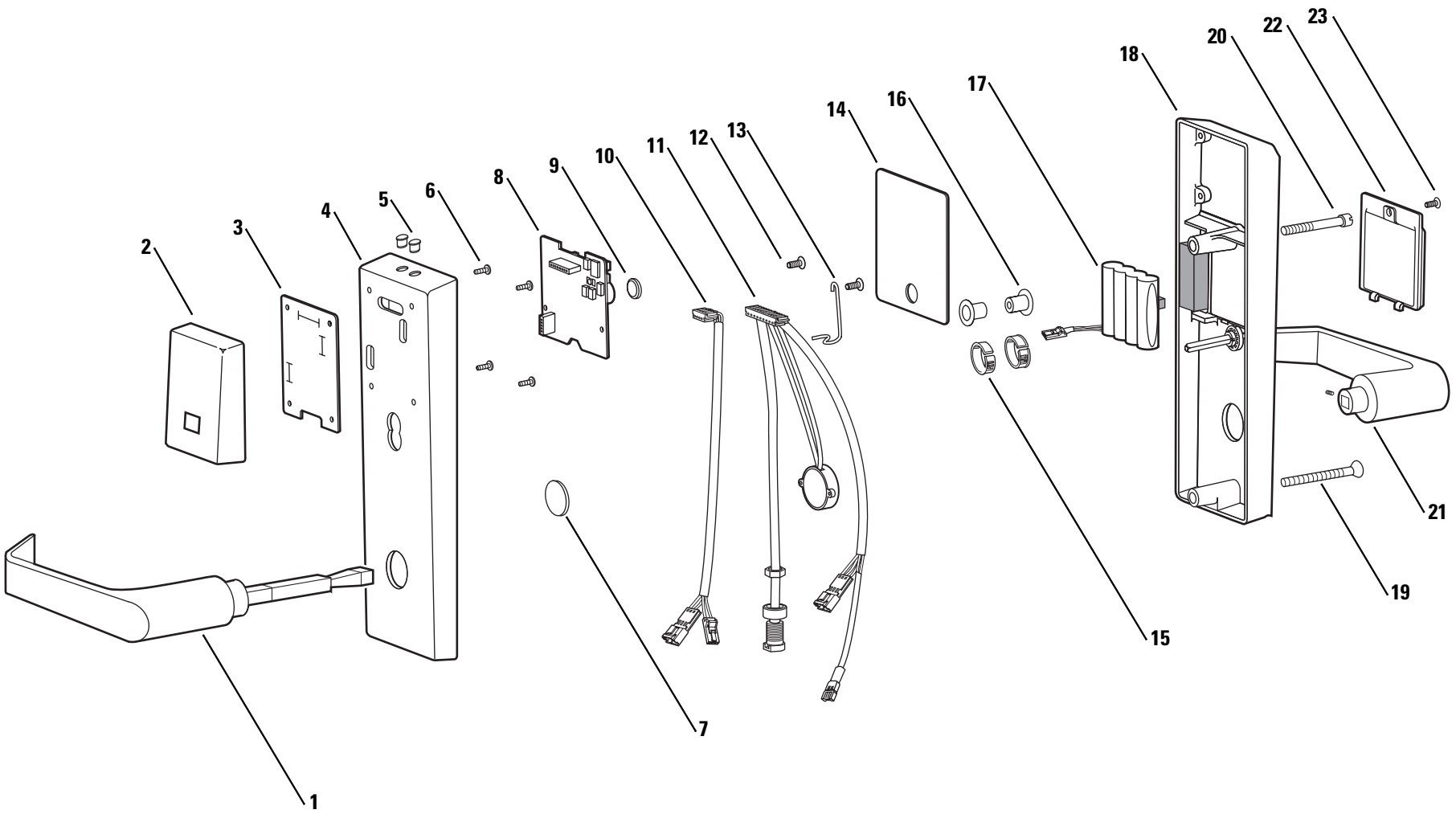


Figure 2.6 B.A.S.I.S. V proximity reader and trim exploded diagram

B.A.S.I.S. V proximity reader and trim parts list

Refer to Figure 2.5 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	A35455	1	#15 outside lever assembly[a] (mortise locks) *or*
not shown	B55168	1	#15 keyed lever handle[b] (cylindrical locks)
2	See HID proximity reader kit (page 4–4)	1	HID proximity reader *or*
not shown	See Motorola proximity reader kit (page 4–4)	1	Motorola proximity reader
3	B60321	1	Reader gasket
4	D62506	1	35HBV outside escutcheon with key (EV and FV functions) *or*
not shown	D62508	1	35HBV outside escutcheon for use with non-BEST cores (EV and FV functions) *or*
not shown	D62505	1	35HBV outside escutcheon without key (LV and NV functions) *or*
not shown	D62507	1	9KBV outside escutcheon assembly (DV function)
5	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
6	See screw kits (page 4–7)	4	Reader assembly mounting screw
7	See primary harness kit (page 4–7)	1	Tape for mounting the sounder
8	See HID proximity control electronics kit (page 4–5)	1	HID proximity control electronics board assembly (with backup battery) *or*
not shown	See Motorola proximity control electronics kit (page 4–5)	1	Motorola proximity control electronics board assembly (with backup battery)
not shown	1837827	1	Jumper (ABA card format only)
9	See backup battery kit (page 4–6)	1	Backup battery
10	See sensor harness kit (page 4–7)	1	Sensor harness
11	See primary harness kit (page 4–7)	1	Primary harness
12	See screw kits (page 4–7)	2	Electronics board mounting screw
13	B63294	1	Harness clamp
14	A60800	1	Outside escutcheon gasket
15	1818846	2	Bushing
16	B61439	2	Trim hole insert
17	B60726	1	Battery pack *or*

Item	Part No.	Qty.	Part
not shown	B62101	1	Eight-cell battery pack[c]
18	C80894	1	35HBV inside escutcheon with turn knob[d] (FV and LV functions) *or*
not shown	D62104	1	35HBV inside escutcheon without turn knob for (EV and NV functions) *or*
not shown	D62102	1	9KBV inside escutcheon (DV function)
19	See screw kits (page 4–7)	1	Lower escutcheon screw
20	See screw kits (page 4–7)	1	Upper escutcheon screw
21	A35454	1	#15 inside lever assembly[a] (mortise locks) *or*
not shown	D55169	1	#15 plain lever handle[b] (cylindrical locks)
22	B62128	1	Battery door
not shown	B62101	1	Eight-cell battery door[c]
23	See screw kits (page 4–7)	1	Battery door screw (TORX with post head) *or*
not shown	See screw kits (page 4–7)	1	Battery door screw (McGard head) *or*
not shown	A34087	1	Battery door screw (Phillips head)

a. See the *H Series Service Manual* for other lever styles.
b. See the *9K Series Service Manual* for other lever styles.
c. If you need to upgrade to the eight-cell battery pack and door, see the Eight-Cell Battery Upgrade kit on page 4–6.
d. This item includes the battery door.

KEYPAD EZ READER AND TRIM EXPLODED DIAGRAM

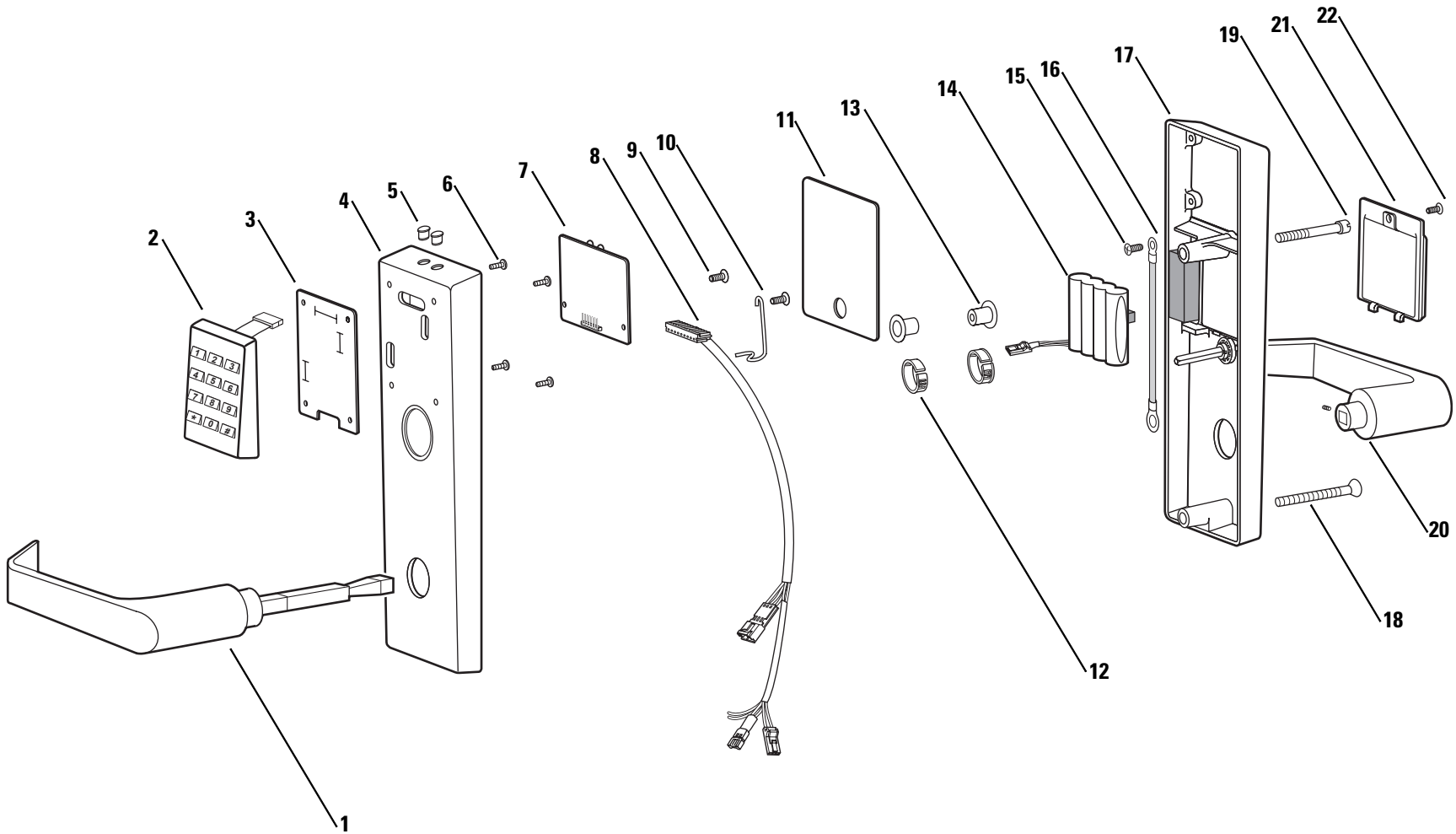


Figure 2.7 Keypad EZ reader and trim exploded diagram (mortise shown)

Keypad EZ reader and trim parts list

Refer to Figure 2.3 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	A35455	1	#15 outside lever assembly[a] (mortise locks) *or*
not shown	B55168	1	#15 keyed lever handle[b] (cylindrical locks)
2	B60325	1	Keypad reader
3	B60321	1	Reader gasket
4	D62571	1	35HZ outside escutcheon with key (EV and FV functions) *or*
not shown	D62565	1	35HZ outside escutcheon without key (LV and NV functions) *or*
not shown	D62567	1	9KZ outside escutcheon assembly (DV function)
5	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
6	See screw kits (page 4–7)	4	Reader assembly mounting screw
not shown	A60324	1	Foam pad
7	B80963	1	Keypad control electronics board assembly
8	C61443	1	Primary harness
9	A61429	2	Electronics board mounting screw
10	B63294	1	Harness clamp
11	A60800	1	Outside escutcheon gasket
12	1818888	2	Bushing
13	B61439	2	Trim hole insert
14	B60726	1	Battery pack *or*
not shown	B62101	1	Eight-cell battery pack[c]
15	A61501	1	Grounding cable screw
16	1886209	1	Grounding cable
17	C80894	1	35HZ inside escutcheon with turn knob[d] (FV and LV functions) *or*
not shown	D62104	1	35HZ inside escutcheon without turn knob for (EV and NV functions) *or*
not shown	D62102	1	9KZ inside escutcheon (DV function)
18	See screw kits (page 4–7)	1	Lower escutcheon screw
19	See screw kits (page 4–7)	1	Upper escutcheon screw
20	A35454	1	#15 inside lever assembly[a] (mortise locks) *or*
not shown	D55169	1	#15 plain lever handle[b] (cylindrical locks)
21	B62128	1	Battery door
not shown	B62101	1	Eight-cell battery door[c]

Item	Part No.	Qty.	Part
22	See screw kits (page 4–7)	1	Battery door screw (TORX with post head) *or*
not shown	See screw kits (page 4–7)	1	Battery door screw (McGard head) *or*
not shown	A34087	1	Battery door screw (Phillips head)

a. See the *H Series Service Manual* for other lever styles.
b. See the *9K Series Service Manual* for other lever styles.
c. If you need to upgrade to the eight-cell battery pack and door, see the Eight-Cell Battery Upgrade kit on page 4–6.
d. This item includes the battery door.

MORTISE COMPONENTS

Mortise case assemblies

	Type of lock		
Lock function	**B.A.S.I.S. G**	**B.A.S.I.S. V**	**Keypad EZ**
NV	C60798	C60798	C64502
LV (with deadbolt)	C60796	C60796	C64501
EV (with key override)	C64502[a] C60797[b]	C60797	C64502
FV (with deadbolt & key override)	C64501[a] C60795[b]	C60795	C64501

a. Without key override sensing. Key override sensing is optional for B.A.S.I.S. G Locks and standard for B.A.S.I.S. V Locks. Keypad EZ Locks do not have key override sensing.
b. With key override sensing.

Mortise case exploded diagram

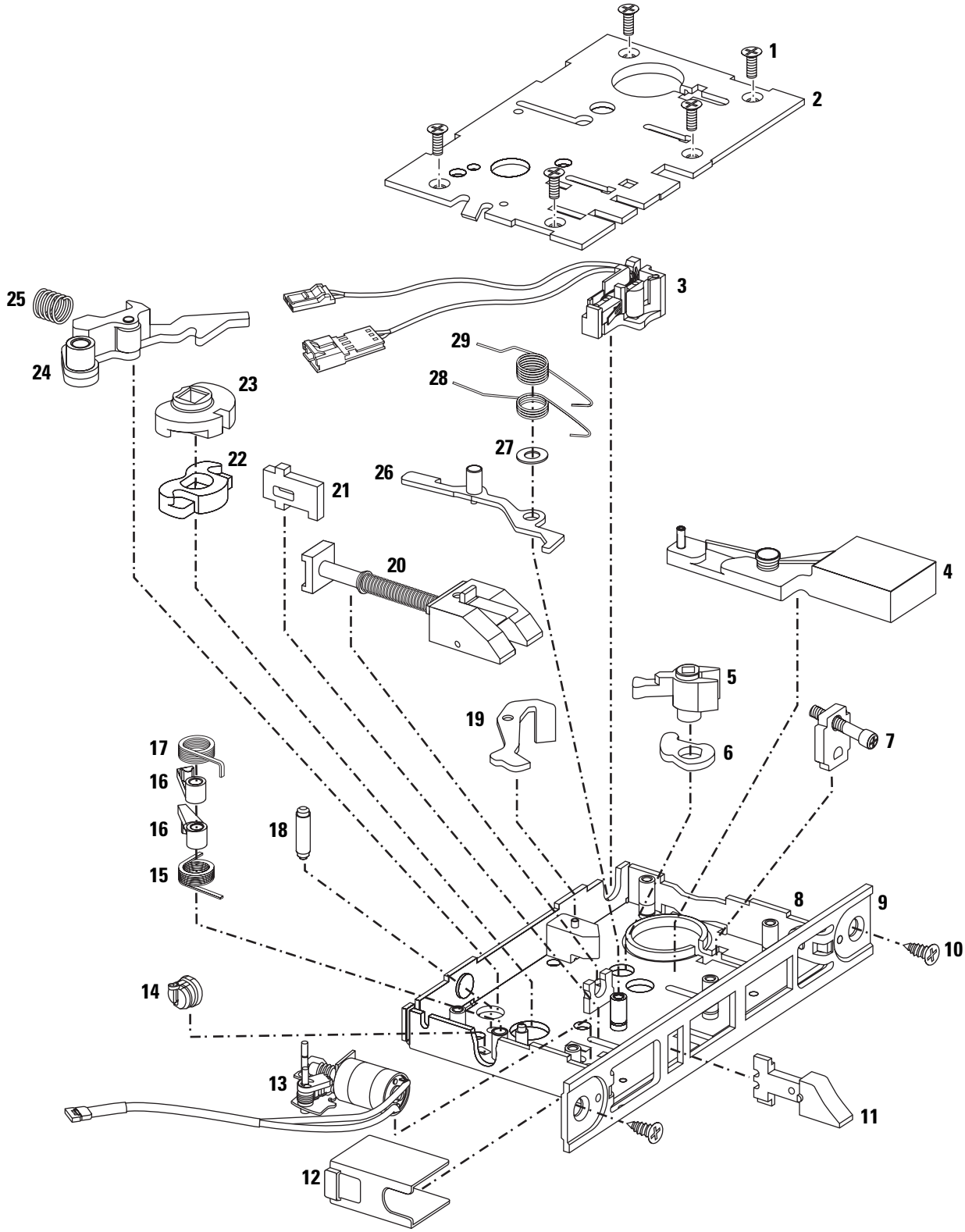


Figure 2.8 FV function mortise case exploded diagram (LH case shown)

Mortise case parts list

Refer to Figure 2.8 and the table below to find the part you need.

Item	Part No.	Qty.	Description
1	A34087	5	Case cover mounting screws
2	B60481	1	Case cover
3	1833885	1	Sensor module with deadbolt and key override kit (B.A.S.I.S. V FV function, B.A.S.I.S. G FV function with optional key override sensing)
not shown	1838747	1	Sensor module with deadbolt kit (LV function, B.A.S.I.S. G FV function without optional key override sensing, Keypad EZ FV function)
not shown	1833927	1	Sensor module with key override kit (B.A.S.I.S. V EV function, B.A.S.I.S. G EV function with optional key override sensing)
not shown	D63295	1	Key sensor switch housing (NV function, B.A.S.I.S. G EV function without optional key override sensing, Keypad EZ EV function)
4	B35035	1	Deadbolt (FV and LV functions)
5	C34011	1	Turn knob hub (FV and LV functions)
6	B34032	1	Turn knob hub spacer (FV and LV functions)
7	A35257	1	Cylinder clamp plate (EV and FV functions)
8	B61500	1	Case assembly (all functions except B.A.S.I.S. V NV function)
not shown	B61302	1	Case assembly (B.A.S.I.S. V NV function)
9	C34053	1	Armored front
10	A34045	1	Case mounting screw
11	B34092	1	Auxiliary bolt
12	A62041	1	Mortise case spacer
13	B60493	1	Motor module
14	A34236	1	Wire strain relief
15	A34065	1	Lower auxiliary spring
16	B34020	2	Auxiliary return levers
17	A34066	1	Upper auxiliary spring
18	A34048	1	Stop pin
19	A35004	1	Latch lever
20	B35019	1	Latchbolt
21	B60467	1	Locking bar
22	B34043	1	Inside hub
23	B34003	1	Outside hub
24	B35490	1	Long hub lever
25	A34081	1	Hub lever spring
26	A35002	1	Deadlocking lever
27	A34315	1	Retaining ring
28	A61210	1	Auxiliary bolt spring
29	A34018	1	Deadlocking spring

Other mortise components diagram

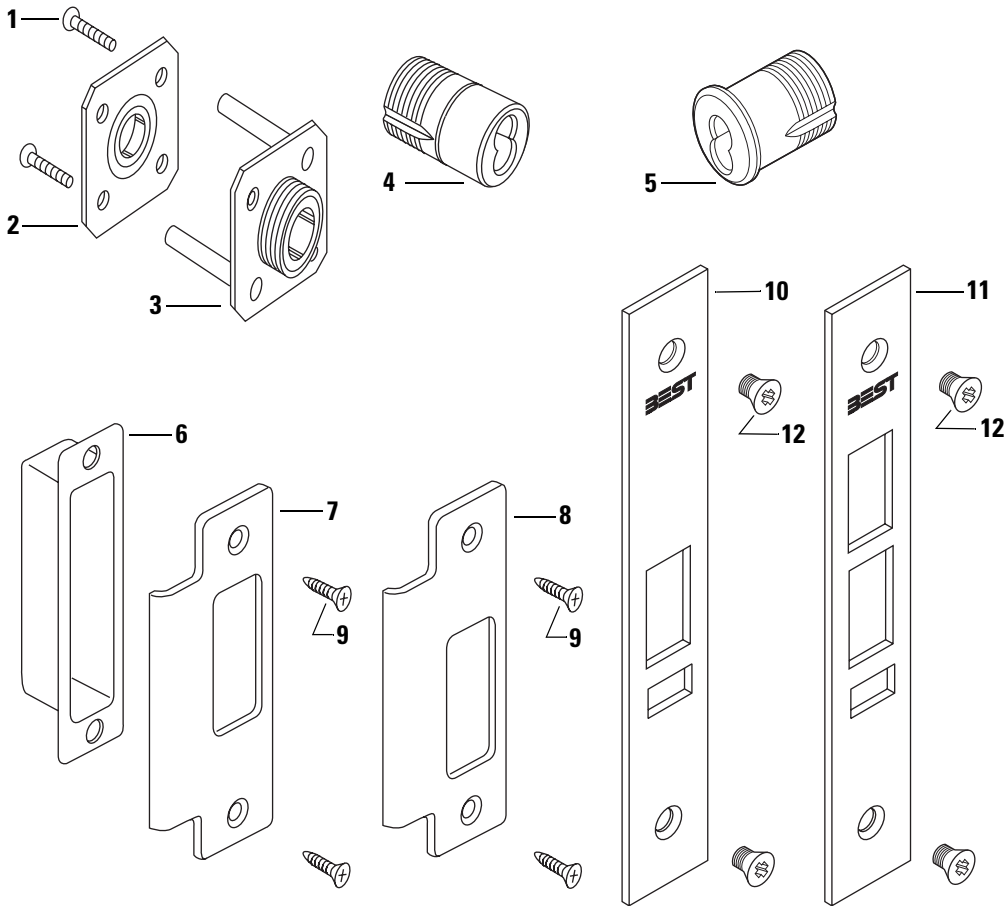


Figure 2.9 Other mortise components

Other mortise components parts list

Refer to Figure 2.9 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	A18991	2	Mounting plate screw for 1 3/4″ – 2″ thick doors
not shown	A18992	2	Mounting plate screw for 2 1/4″ – 2 1/2″ thick doors
not shown	A28993	2	Mounting plate screw for 2 3/4″ – 3″ thick doors
2	B35030	1	Inside mounting plate
3	B35247	1	Outside mounting plate
4	B61231	1	Concealed cylinder for 1 3/4″ – 2″ thick doors (B.A.S.I.S. EV or FV function)
not shown	B61232	1	Concealed cylinder for 2 1/4″ – 2 1/2″ thick doors (B.A.S.I.S. EV or FV function)
not shown	B61233	1	Concealed cylinder for 2 3/4″ – 3″ thick doors (B.A.S.I.S. EV or FV functions)
5	B35173	1	Mortise cylinder assembly (Keypad EZ EV or FV function)
6	B34380	1	Strike box
7	C29517	1	Strike plate for LH/RHRB
8	C29516	1	Strike plate for RH/LHRB
9	A18724	2	Standard strike screw
not shown	A34450	2	Security strike screw
10	B34515	1	Faceplate for EV and NV functions
11	D34095	1	Faceplate for FV and LV functions (deadbolt)
12	A18722	2	Standard faceplate screw
not shown	A34454	2	Security faceplate screw

CYLINDRICAL COMPONENTS

CYLINDRICAL CHASSIS DIAGRAM

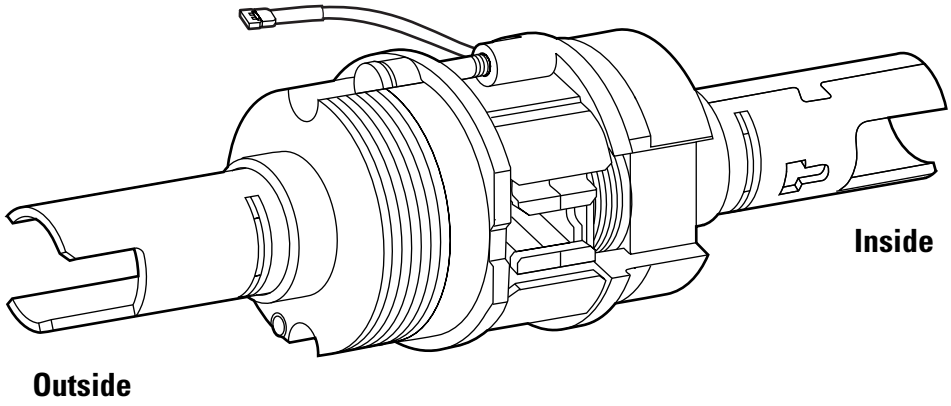


Figure 2.10 Cylindrical chassis diagram

Cylindrical chassis parts list

Refer to Figure 2.10 and the table below to find the part you need.

Chassis type	Part no.
Standard chassis	D60464
Chassis for non-BEST cores	D60332
Free motion chassis	D56025

Other cylindrical lock components diagram

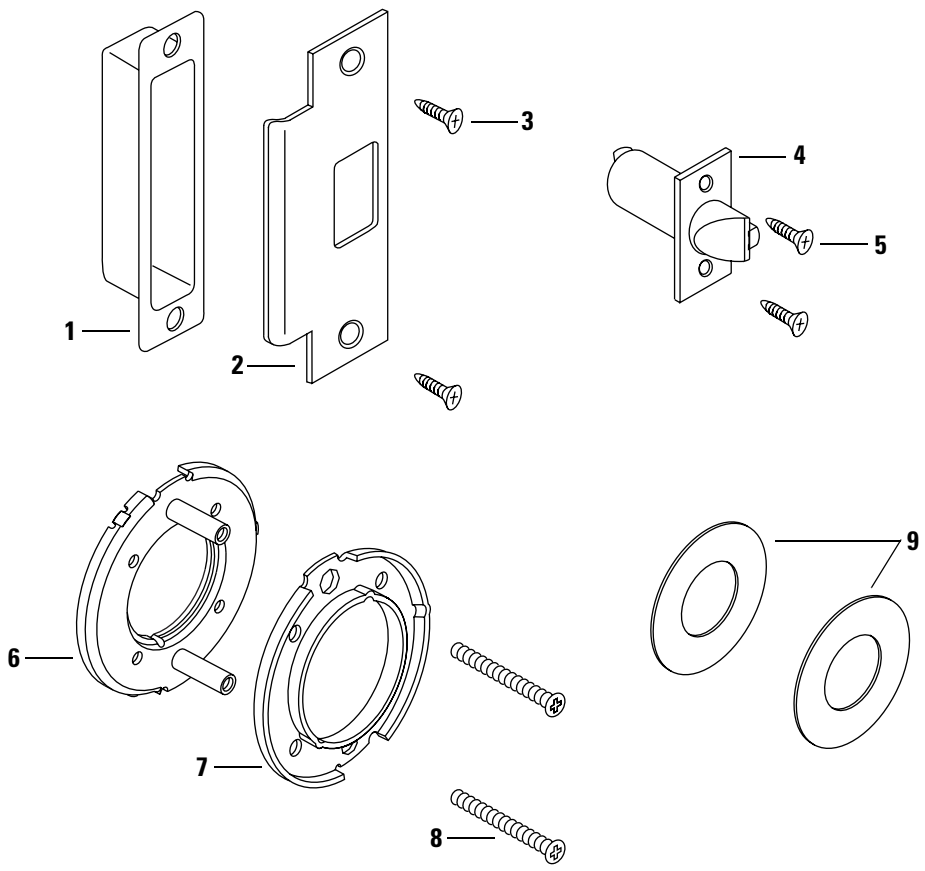


Figure 2.11 Other cylindrical lock components

Other cylindrical lock components parts list

Refer to Figure 2.11 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B25640	1	Standard strike box
2	B25639	1	Standard strike plate
3	A25359	2	Screw for standard strike
not shown	B34380	1	ANSI strike box
not shown	B25641	1	ANSI strike plate
not shown	A18724	2	Screw for ANSI strike
4	C54680	1	Latch for 2 3/4″ backset
not shown	C51682	1	Latch for 3 3/4″ backset
not shown	C54684	1	Latch for 5″ backset
5	A25359	2	Latch screw
6	B55603	1	Small outside rose liner
7	C55556	1	Small inside rose liner
8	B55557	2	Through-bolt screw
9	A80775	2	Hub washer

3

EXIT HARDWARE TRIM FUNCTIONS AND PARTS

The following pages contain function descriptions for Electronic Stand-Alone EX Series Exit Hardware Trim. This chapter also includes exploded diagrams showing all field-serviceable exit hardware trim parts.

FUNCTION DESCRIPTIONS

The following lists describe how the latchbolt, outside lever, and inside trim operate for each EX Series Exit Hardware Trim function.

EV–With key override

Latchbolt operated by:
- outside key
- outside lever—unless locked by internal motor drive mechanism
- inside lever

Outside lever locked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Outside lever unlocked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Inside trim is always unlocked

NV–Without key override

Latchbolt operated by:
- outside lever—unless locked by internal motor drive mechanism
- inside lever

Outside lever locked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Outside lever unlocked by:
- internal motor drive mechanism operated by time-activated electronic signal or by valid card/PIN

Inside trim is always unlocked

EXIT HARDWARE TRIM COMPATIBILITY

The following table indicates the compatibility of Electronic Stand-Alone Lock Exit Hardware Trim with Precision Hardware, Sargent, and Von Duprin exit hardware devices.

	Exit hardware manufacturer and product series			
Exit hardware type	**Precision Hardware 1000 Series**	**Precision Hardware 2000 Series**	**Sargent 8800 Series**	**Von Duprin 98/99 Series**
Rim	■†	■	■†	■
Mortise	■	■		■†
Surface vertical rod	■†	■		■
Concealed vertical rod	■†	■		■

†. Not available with key override.

TRIM COMPONENTS
B.A.S.I.S. MAGNETIC STRIPE READER AND TRIM EXPLODED DIAGRAM

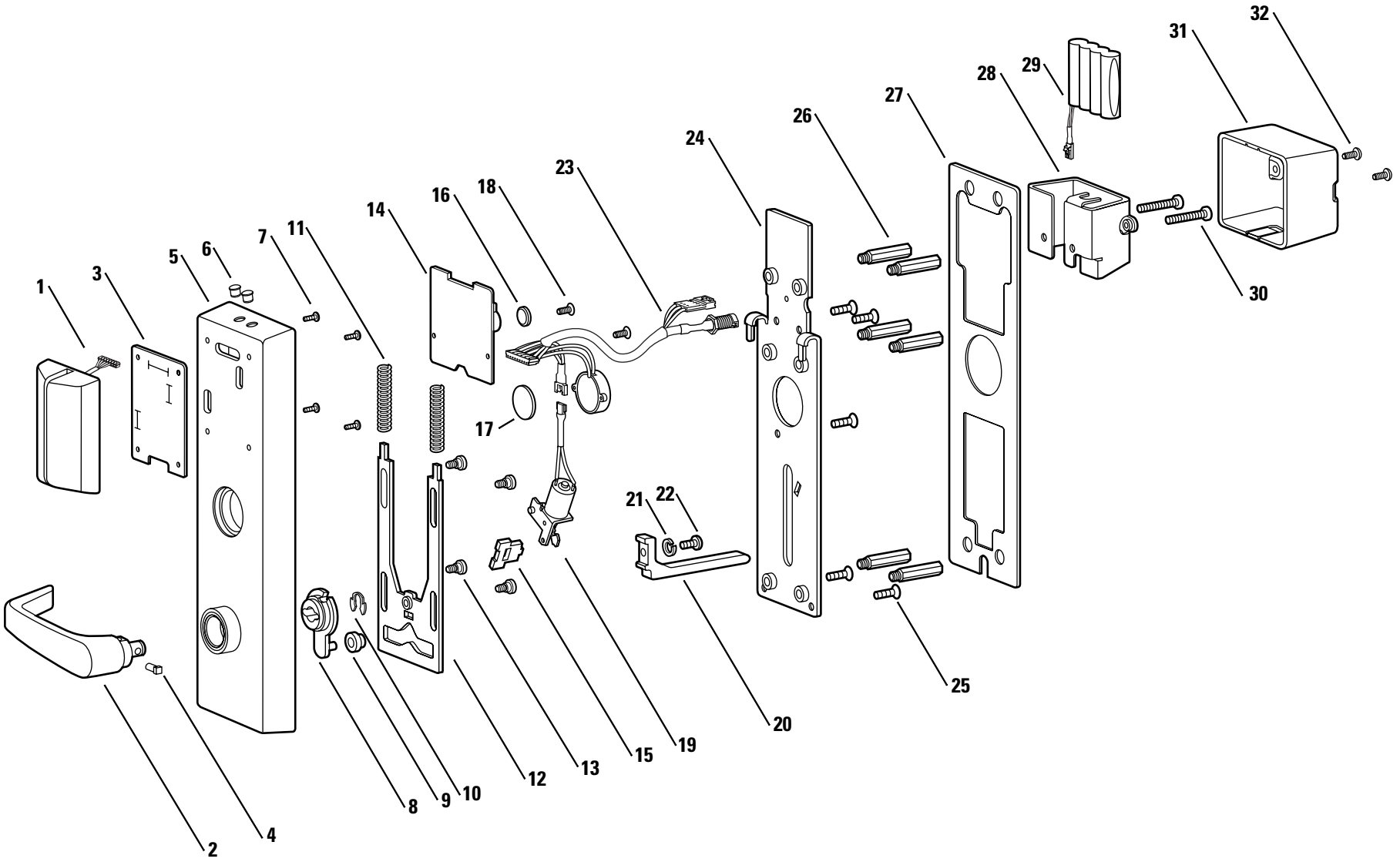


Figure 3.1 B.A.S.I.S. magnetic stripe reader and trim exploded diagram (Precision Hardware–rim type shown)

B.A.S.I.S. magnetic stripe reader and trim parts list

Refer to Figure 3.1 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	See magnetic stripe reader kits (page 4–4)	1	Magnetic stripe reader
2	See levers (page 3–19)	1	Lever assembly (#15 lever shown)
3	B60321	1	Reader gasket
4	See shear pin kit (page 4–10)	1	Shear pin
5	C64565	1	Escutcheon with key (EV function) *or*
not shown	C64550	1	Escutcheon without key (NV function)
6	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
7	See screw kits (page 4–7)	4	Reader assembly mounting screw
8	B64557	1	Beam
9	A64571	1	Beam roller
10	A64609	1	C-clip
11	A64610	2	Lever return spring
12	C64552	1	Yoke
13	See screw kits (page 4–7)	4	Shoulder screw
14	See magnetic stripe control electronics kit (page 4–5)	1	Magnetic stripe control electronics board assembly (with backup battery)
15	B64562	1	Locking plate
16	See backup battery kit (page 4–6)	1	Backup battery
17	See primary harness (page 4–10)	1	Tape for mounting the sounder
18	See screw kits (page 4–7)	2	Electronics board mounting screw
19	See motor assembly kit (page 4–10)	1	Motor assembly (with socket head screw and spacer)
20	See lift fingers (page 3–21)	1	Lift finger (Precision Hardware rim and rod shown)
21	A64607	1	Washer
22	See screw kits (page 4–7)	1	Lift finger screw
23	See primary harness kit (page 4–10)	1	Primary harness
not shown	1879118	1	Cable tie

Item	Part No.	Qty.	Part
24	D64551	1	Mounting plate for Precision Hardware and Sargent installations *or*
not shown	D64634	1	Mounting plate for Von Duprin installations
25	See screw kits (page 4–7)	5	Mounting plate screw
26	See screw kits (page 4–7)	6	Mounting standoff
27	C64564	1	Escutcheon gasket
28	C64560	1	Battery bracket
29	B60726	1	Battery pack
30	See screw kits (page 4–7)	2	Battery bracket screw
31	C64559	1	Battery cover
32	See screw kits (page 4–7)	1	Battery cover screw (TORX with post head)

B.A.S.I.S. SMART CARD READER AND TRIM EXPLODED DIAGRAM

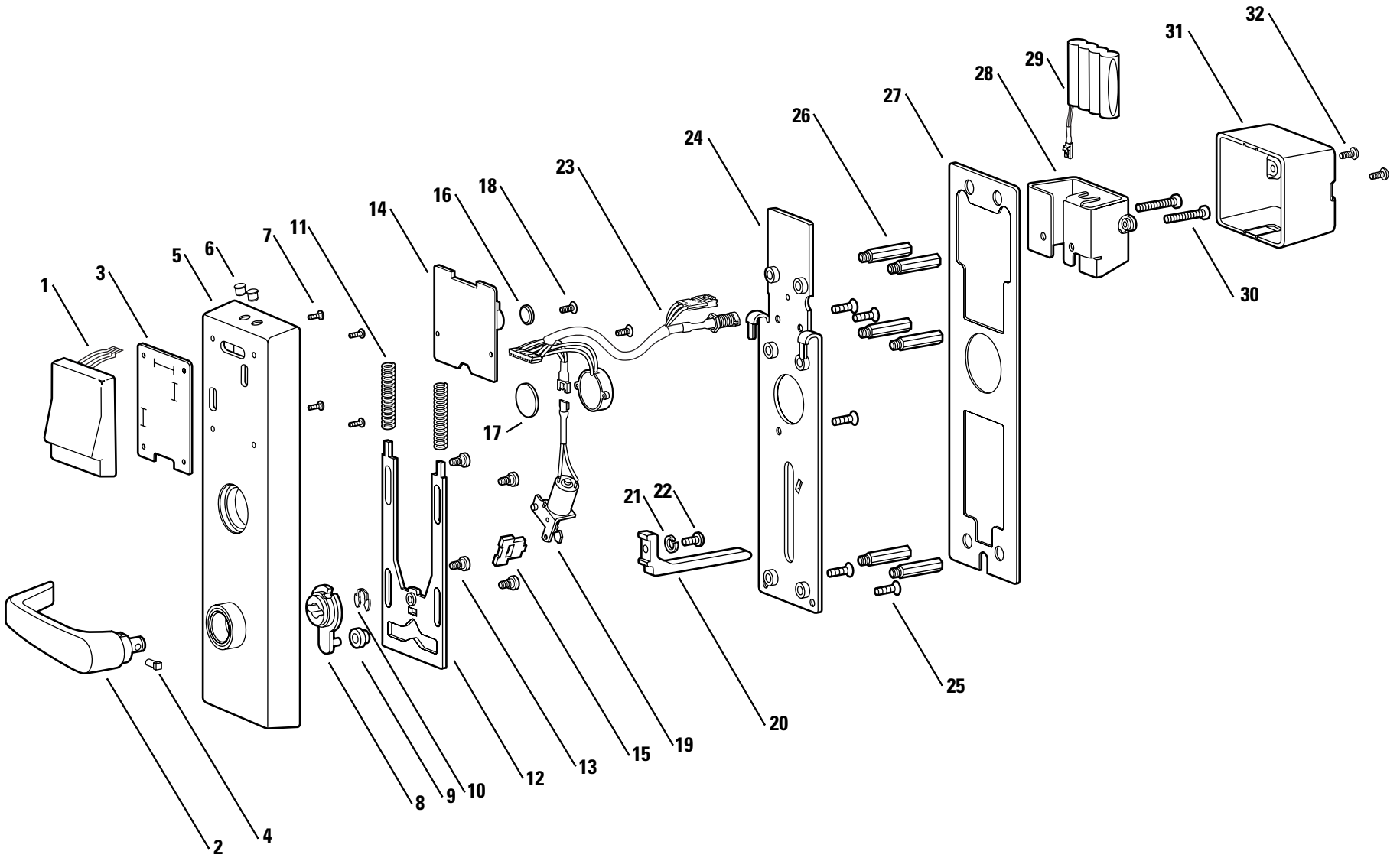


Figure 3.2 B.A.S.I.S. smart card reader and trim exploded diagram (Precision Hardware–rim type shown)

B.A.S.I.S. smart card reader and trim parts list

Refer to Figure 3.2 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	See smart card reader kit (page 4–4)	1	Smart card reader
2	See levers (page 3–19)	1	Lever assembly (#15 lever shown)
3	B60321	1	Reader gasket
4	See shear pin kit (page 4–10)	1	Shear pin
5	C64565	1	Escutcheon with key (EV function) *or*
not shown	C64550	1	Escutcheon without key (NV function)
6	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
7	See screw kits (page 4–7)	4	Reader assembly mounting screw
8	B64557	1	Beam
9	A64571	1	Beam roller
10	A64609	1	C-clip
11	A64610	2	Lever return spring
12	C64552	1	Yoke
13	See screw kits (page 4–7)	4	Shoulder screw
14	See smart card control electronics kit (page 4–5)	1	Smart card control electronics board assembly (with backup battery)
15	B64562	1	Locking plate
16	See backup battery kit (page 4–6)	1	Backup battery
17	See primary harness kit (page 4–10)	1	Tape for mounting the sounder
18	See screw kits (page 4–7)	2	Electronics board mounting screw
19	See motor assembly kit (page 4–10)	1	Motor assembly (with socket head screw and spacer)
20	See lift fingers (page 3–21)	1	Lift finger (Precision Hardware rim and rod shown)
21	A64607	1	Washer
22	See screw kits (page 4–7)	1	Lift finger screw
23	See primary harness kit (page 4–10)	1	Primary harness
not shown	1879118	1	Cable tie

Item	Part No.	Qty.	Part
24	D64551	1	Mounting plate for Precision Hardware and Sargent installations *or*
not shown	D64634	1	Mounting plate for Von Duprin installations
25	See screw kits (page 4–7)	5	Mounting plate screw
26	See screw kits (page 4–7)	6	Mounting standoff
27	C64564	1	Escutcheon gasket
28	C64560	1	Battery bracket
29	B60726	1	Battery pack
30	See screw kits (page 4–7)	2	Battery bracket screw
31	C64559	1	Battery cover
32	See screw kits (page 4–7)	1	Battery cover screw (TORX with post head)

B.A.S.I.S. DUAL VALIDATION READER AND TRIM EXPLODED DIAGRAM

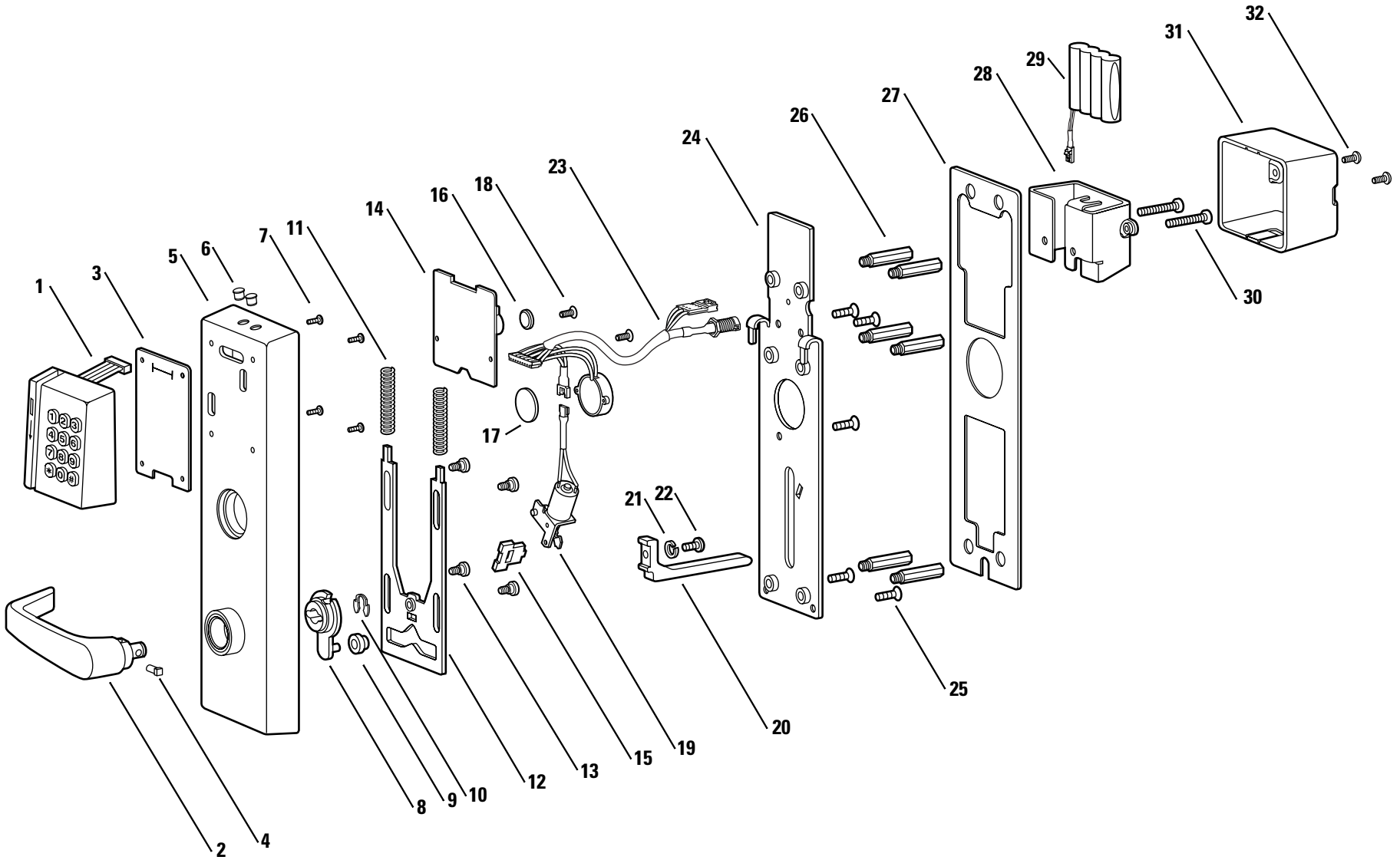


Figure 3.3 B.A.S.I.S. dual validation reader and trim exploded diagram (Precision Hardware–rim type shown)

B.A.S.I.S. dual validation reader and trim parts list

Refer to Figure 3.3 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	See dual validation reader kits (page 4–4)	1	Dual validation reader
2	See levers (page 3–19)	1	Lever assembly (#15 lever shown)
3	B60321	1	Reader gasket
4	See shear pin kit (page 4–10)	1	Shear pin
5	C64565	1	Escutcheon with key (EV function) *or*
not shown	C64550	1	Escutcheon without key (NV function)
6	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
7	See screw kits (page 4–7)	4	Reader assembly mounting screw
8	B64557	1	Beam
9	A64571	1	Beam roller
10	A64609	1	C-clip
11	A64610	2	Lever return spring
12	C64552	1	Yoke
13	See screw kits (page 4–7)	4	Shoulder screw
14	See dual validation control electronics kit (page 4–5)	1	Dual validation control electronics board assembly (with backup battery)
15	B64562	1	Locking plate
16	See backup battery kit (page 4–6)	1	Backup battery
17	See primary harness kit (page 4–10)	1	Tape for mounting the sounder
18	See screw kits (page 4–7)	2	Electronics board mounting screw
19	See motor assembly kit (page 4–10)	1	Motor assembly (with socket head screw and spacer)
20	See lift fingers (page 3–21)	1	Lift finger (Precision Hardware rim and rod shown)
21	A64607	1	Washer
22	See screw kits (page 4–7)	1	Lift finger screw
23	See primary harness kit (page 4–10)	1	Primary harness
not shown	1879118	1	Cable tie

Item	Part No.	Qty.	Part
24	D64551	1	Mounting plate for Precision Hardware and Sargent installations *or*
not shown	D64634	1	Mounting plate for Von Duprin installations
25	See screw kits (page 4–7)	5	Mounting plate screw
26	See screw kits (page 4–7)	6	Mounting standoff
27	C64564	1	Escutcheon gasket
28	C64560	1	Battery bracket
29	B60726	1	Battery pack
30	See screw kits (page 4–7)	2	Battery bracket screw
31	C64559	1	Battery cover
32	See screw kits (page 4–7)	1	Battery cover screw (TORX with post head)

B.A.S.I.S. V PROXIMITY READER AND TRIM EXPLODED DIAGRAM

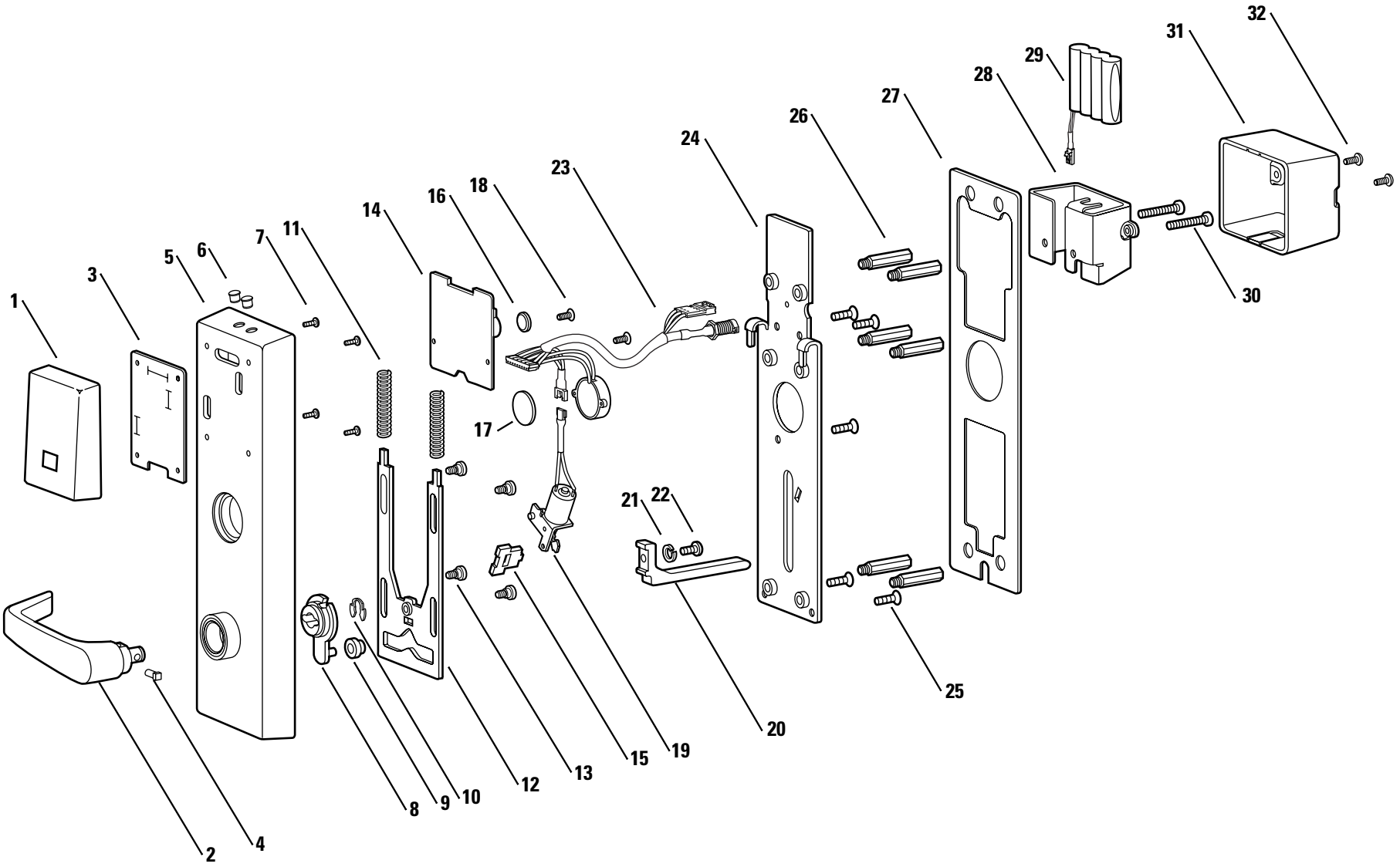


Figure 3.4 B.A.S.I.S. V proximity reader and trim exploded diagram (Precision Hardware–rim type shown)

B.A.S.I.S. V proximity reader and trim parts list

Refer to Figure 3.4 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	See HID proximity reader kit (page 4–4)	1	HID proximity reader *or*
not shown	See Motorola proximity reader kit (page 4–4)	1	Motorola proximity reader
2	See levers (page 3–19)	1	Lever assembly (#15 lever shown)
3	B60321	1	Reader gasket
4	See shear pin kit (page 4–10)	1	Shear pin
5	C64565	1	Escutcheon with key (EV function) *or*
not shown	C64550	1	Escutcheon without key (NV function)
6	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
7	See screw kits (page 4–7)	4	Reader assembly mounting screw
8	B64557	1	Beam
9	A64571	1	Beam roller
10	A64609	1	C-clip
11	A64610	2	Lever return spring
12	C64552	1	Yoke
13	See screw kits (page 4–7)	4	Shoulder screw
14	See HID proximity control electronics kit (page 4–5)	1	HID proximity control electronics board assembly (with backup battery) *or*
not shown	See Motorola proximity control electronics kit (page 4–5)	1	Motorola proximity control electronics board assembly (with backup battery)
not shown	1837827	1	Jumper (ABA card format only)
15	B64562	1	Locking plate
16	See backup battery kit (page 4–6)	1	Backup battery
17	See primary harness kit (page 4–10)	1	Tape for mounting the sounder
18	See screw kits (page 4–7)	2	Electronics board mounting screw
19	See motor assembly kit (page 4–10)	1	Motor assembly (with socket head screw and spacer)
20	See lift fingers (page 3–21)	1	Lift finger (Precision Hardware rim and rod shown)

Item	Part No.	Qty.	Part
21	A64607	1	Washer
22	See screw kits (page 4–7)	1	Lift finger screw
23	See primary harness kit (page 4–10)	1	Primary harness
not shown	1879118	1	Cable tie
24	D64551	1	Mounting plate for Precision Hardware and Sargent installations *or*
not shown	D64634	1	Mounting plate for Von Duprin installations
25	See screw kits (page 4–7)	5	Mounting plate screw
26	See screw kits (page 4–7)	6	Mounting standoff
27	C64564	1	Escutcheon gasket
28	C64560	1	Battery bracket
29	B61917	1	Battery pack
30	See screw kits (page 4–7)	2	Battery bracket screw
31	C64559	1	Battery cover
32	See screw kits (page 4–7)	1	Battery cover screw (TORX with post head)

KEYPAD EZ READER AND TRIM EXPLODED DIAGRAM

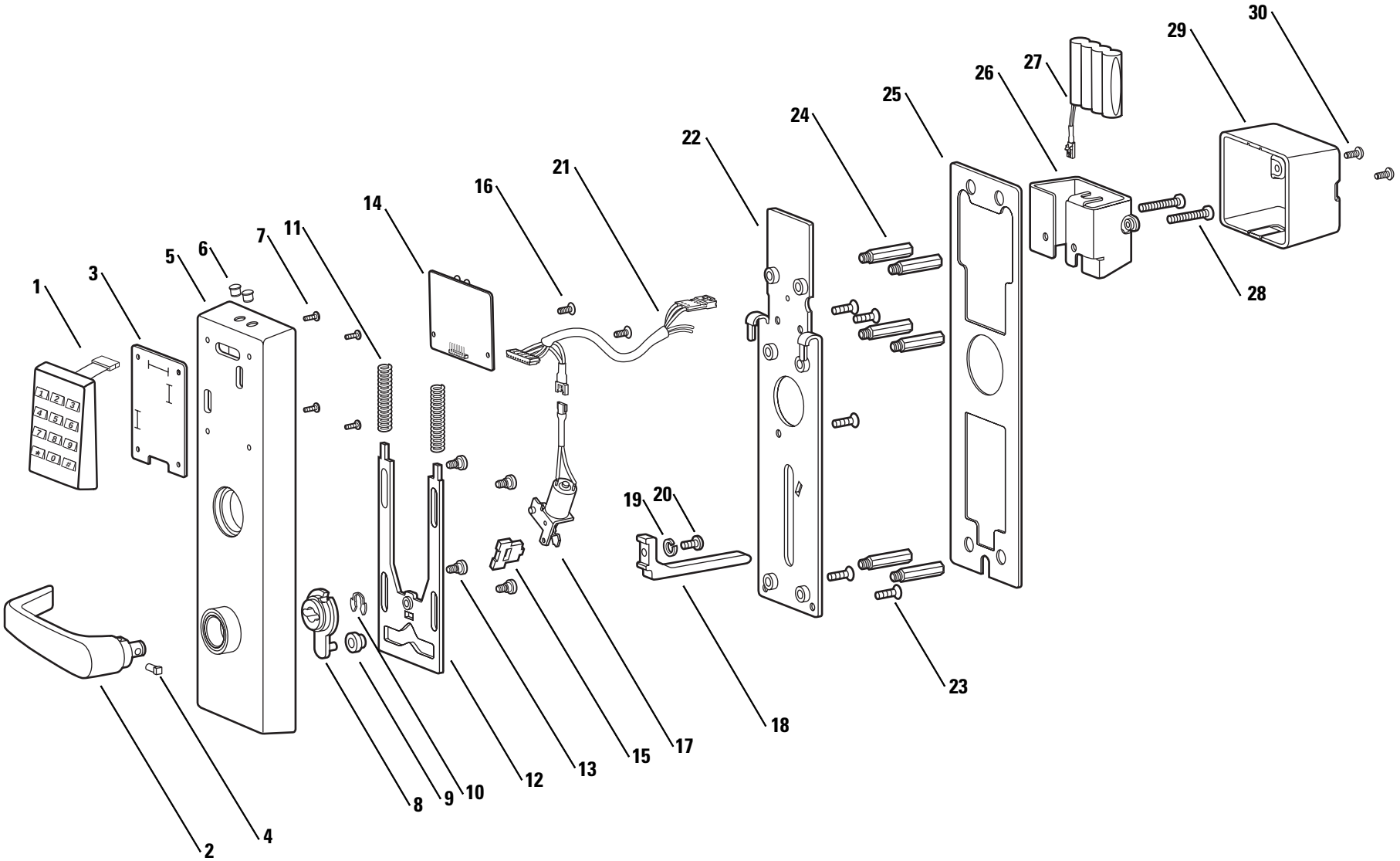


Figure 3.5 Keypad EZ reader and trim exploded diagram (Precision Hardware–rim type shown)

Keypad EZ reader and trim parts list

Refer to Figure 3.5 and the table below to find the part that you need.

Item	Part No.	Qty.	Part
1	B60325	1	Keypad reader
2	See levers (page 3–19)	1	Lever assembly (#15 lever shown)
3	B60321	1	Reader gasket
4	See shear pin kit (page 4–10)	1	Shear pin
5	C64565	1	Escutcheon with key (EV function) *or*
not shown	C64550	1	Escutcheon without key (NV function)
6	A60317	2	Lens cover
not shown	A60318	2	Lens retaining ring
7	See screw kits (page 4–7)	4	Reader assembly mounting screw
8	B64557	1	Beam
9	A64571	1	Beam roller
10	A64609	1	C-clip
11	A64610	2	Lever return spring
12	C64552	1	Yoke
13	See screw kits (page 4–7)	4	Shoulder screw
14	B80963	1	Keypad control electronics board
15	B64562	1	Locking plate
16	See screw kits (page 4–7)	2	Electronics board mounting screw
17	See motor assembly kit (page 4–10)	1	Motor assembly (with socket head screw and spacer)
18	See lift fingers (page 3–21)	1	Lift finger (Precision Hardware rim and rod shown)
19	A64607	1	Washer
20	See screw kits (page 4–7)	1	Lift finger screw
21	C61444	1	Primary harness
not shown	1879118	1	Cable tie
22	D64551	1	Mounting plate for Precision Hardware and Sargent installations *or*
not shown	D64634	1	Mounting plate for Von Duprin installations
23	See screw kits (page 4–7)	5	Mounting plate screw
24	See screw kits (page 4–7)	6	Mounting standoff

Item	Part No.	Qty.	Part
25	C64564	1	Escutcheon gasket
26	C64560	1	Battery bracket
27	B60726	1	Battery pack
28	See screw kits (page 4-7)	2	Battery bracket screw
29	C64559	1	Battery cover
30	See screw kits (page 4-7)	1	Battery cover screw (TORX with post head)

CYLINDERS AND RELATED COMPONENTS

Mortise cylinder and related components diagram

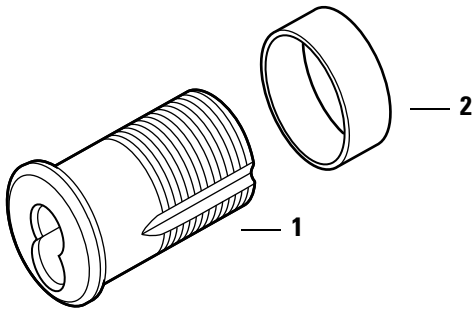


Figure 3.6 Mortise cylinder and related components diagram

Mortise cylinder and related components parts list

Refer to Figure 3.6 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B35173	1	7-pin cylinder assembly
2	A06280	1	Cylinder ring

Rim cylinder and related components diagram

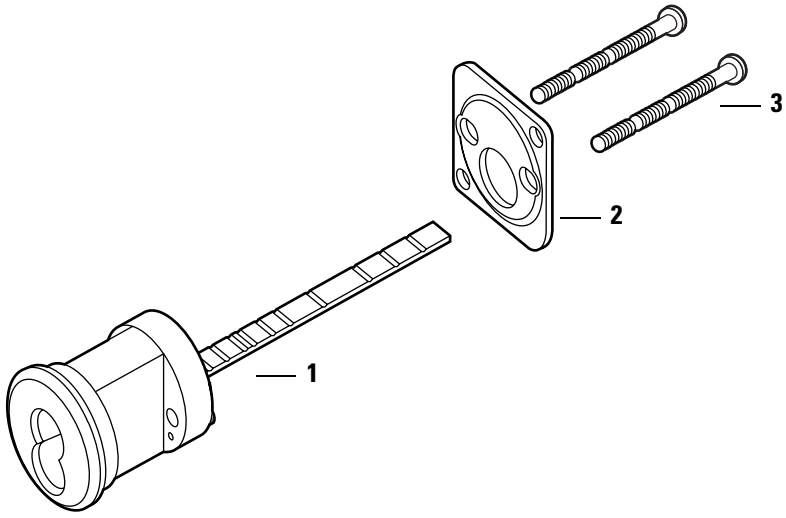


Figure 3.7 Rim cylinder and related components diagram

Rim cylinder and related components parts list

Refer to Figure 3.7 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B00689	1	7-pin cylinder assembly
2	C13910	1	Clamp plate
3	A14533	2	Mounting screws
not shown	A64635	1	Mounting sleeve†

†. For Von Duprin rim and rod applications and Sargent rim applications.

LEVERS

Levers diagram

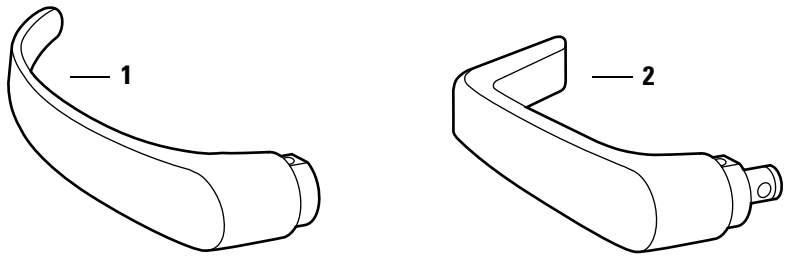


Figure 3.8 Levers diagram

Levers parts list

Refer to Figure 3.8 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B64572	1	#14 round lever
2	B64577	1	#15 contoured lever

LIFT FINGERS

Lift fingers diagram

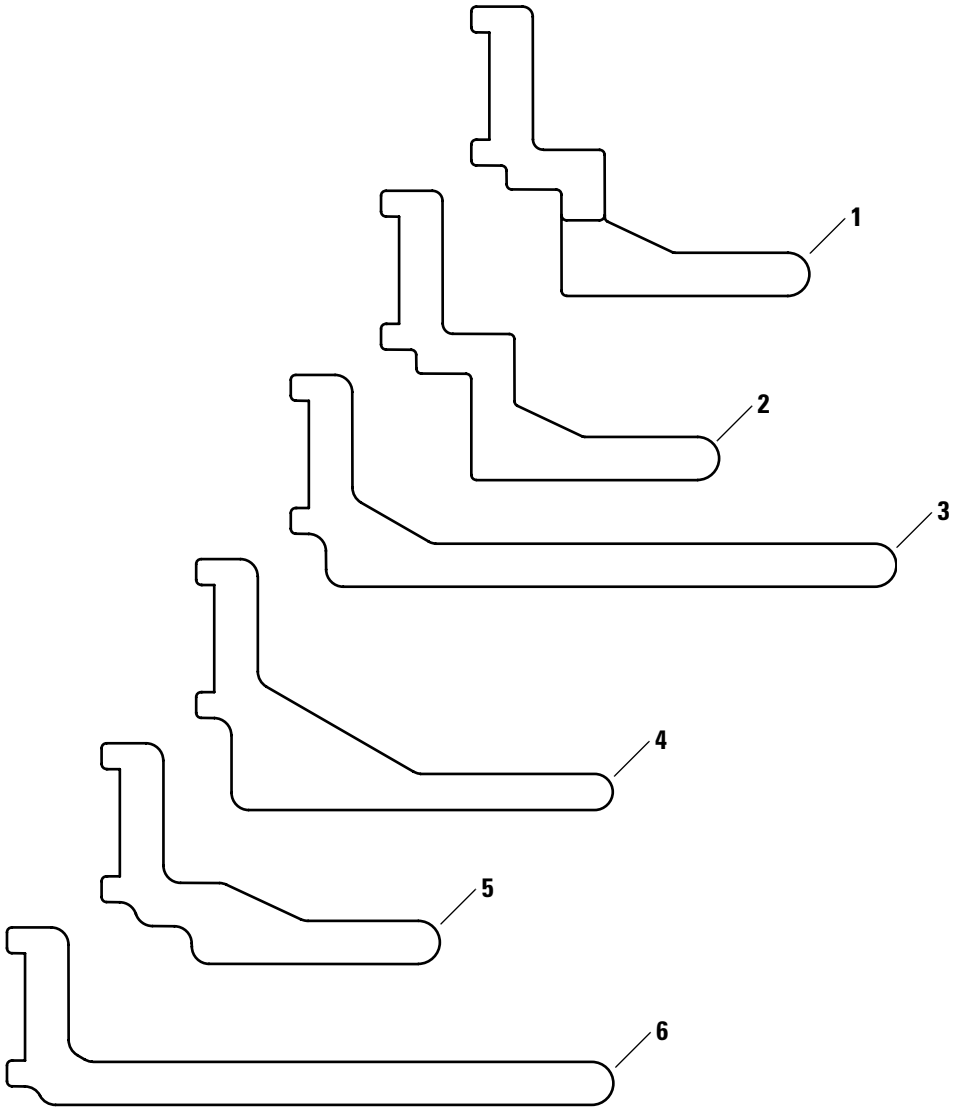


Figure 3.9 Lift fingers diagram

Lift fingers parts list

Refer to Figure 3.9 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	C64576	1	Lift finger (left hand) for Precision Hardware mortise installations
2	C64568	1	Lift finger (right hand) for Precision Hardware mortise installations
3	C64558	1	Lift finger for Precision Hardware rim and rod installations
4	C81071	1	Lift finger for Sargent installations
5	C64566	1	Lift finger for Von Duprin mortise installations
6	C64633	1	Lift finger for Von Duprin rim and rod installations

4 SHARED STANDARD AND EXIT HARDWARE TRIM PARTS

This chapter includes reader conversion information for standard B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim. It also includes parts lists for kits shared by various standard Electronic Stand-Alone Locks and Electronic Stand-Alone Exit Hardware Trim. This chapter also describes B.A.S.I.S. system components.

B.A.S.I.S. READER CONVERSION

The reader conversion information provided in this section applies to both standard B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim. To determine whether a lock has B.A.S.I.S. G or B.A.S.I.S. V electronics, see page 9–8.

Converting to a magnetic stripe reader

To change the reader for a standard B.A.S.I.S. Lock or B.A.S.I.S. EX Series Exit Hardware Trim to a magnetic stripe reader, order:

- B.A.S.I.S. Magnetic Stripe Reader Kit:
  - Magnetic Stripe Reader (Track 1) Kit (1837869) *or*
  - Magnetic Stripe Reader (Track 2) Kit (1833445) *or*
  - Magnetic Stripe Reader (Track 3) Kit (1837900)
- B.A.S.I.S. Magnetic Stripe Control Electronics Kit:
  - B.A.S.I.S. G Magnetic Stripe Control Electronics Kit (1833529) *or*
  - B.A.S.I.S. V Magnetic Stripe Control Electronics Kit (1833487).

Converting to a smart card reader

To change the reader for a standard B.A.S.I.S. Lock or B.A.S.I.S. EX Series Exit Hardware Trim to a smart card reader, order:

- B.A.S.I.S. Smart Card Reader Kit (1833560)
- B.A.S.I.S. G Smart Card Control Electronics Kit:
  - B.A.S.I.S. G Smart Card Control Electronics Kit (1833644) *or*
  - B.A.S.I.S. V Smart Card Control Electronics Kit (1833602).

Converting to a dual validation reader

Since the reader gasket is extremely difficult to remove from the escutcheon in the field, BEST does not recommend conversion to or from a dual validation reader by replacing the reader. Contact your BEST Representative to obtain a complete outside escutcheon assembly.

Converting to an HID or a Motorola proximity reader

To change the reader for a standard B.A.S.I.S. V Lock or B.A.S.I.S. V EX Series Exit Hardware Trim to a proximity reader, order:

- B.A.S.I.S. V Proximity Reader Kit:
  - HID Proximity Reader Kit (1838307) *or*
  - Motorola Proximity Reader Kit (1838464)
- B.A.S.I.S. V Proximity Control Electronics Kit
  - B.A.S.I.S. V HID Proximity Control Electronics Kit (1838422) *or*
  - B.A.S.I.S. V Motorola Proximity Control Electronics Kit (1838464).

Tasks to perform for converting

Perform these tasks:

1. *For standard locks,* remove the inside and outside escutcheons from the door. For mortise lock instructions, see page 5–6. For cylindrical lock instructions, see page 7–5.

   For exit hardware trim, remove the B.A.S.I.S. escutcheon from the door. See page 8–13.

2. Replace the reader:

   - To replace the magnetic stripe reader, see page 9–21 (for standard B.A.S.I.S. Locks) or page 10–13 (for B.A.S.I.S. EX Series Exit Hardware Trim).
   - To replace the smart card reader, see page 9–24 (for standard B.A.S.I.S. Locks) or page 10–14 (for B.A.S.I.S. EX Series Exit Hardware Trim).
   - To replace the proximity reader, see page 9–30 (for standard B.A.S.I.S. Locks) or page 10–15 (for B.A.S.I.S. EX Series Exit Hardware Trim).

3. Replace the control electronics board:

   - To replace the magnetic stripe control electronics board, see page 9–8 (for standard B.A.S.I.S. Locks) or page 10–10 (for EX Series Exit Hardware Trim).
   - To replace the smart card control electronics board, see page 9–10 (for standard B.A.S.I.S. Locks) or page 10–11 (for EX Series Exit Hardware Trim).
   - To replace the proximity control electronics board, see page 9–16 (for standard B.A.S.I.S. Locks) or page 10–12 (for B.A.S.I.S. EX Series Exit Hardware Trim).

4. *For standard locks,* reinstall the inside and outside escutcheons on the door. For mortise lock instructions, see page 5–10. For cylindrical lock instructions, see page 7–9.

   For exit hardware trim, reinstall the escutcheon on the door. See page 8–14.

FIELD REPLACEMENT KITS

Unless otherwise noted, each kit contains a quantity of one for each component indicated.

B.A.S.I.S. reader kits

The reader kits described in the table below are used for both standard B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim. To determine the read head track position for magnetic stripe readers, see page 9–21. To determine the read head track position for dual validation readers, see page 9–14.

		Components											
Kit name	Part number	Magnetic stripe reader assembly (track 1)	Magnetic stripe reader assembly (track 2)	Magnetic stripe reader assembly (track 3)	Smart card reader assembly	Dual validation reader assembly (track 1)	Dual validation reader assembly (track 2)	Dual validation reader assembly (track 3)	HID proximity reader assembly	Motorola proximity reader assembly	Escutcheon gaskets	Mounting plate screw	Lift finger screw
Magnetic Stripe Reader (Track 1) Kit	1837869	■									†	5	■
Magnetic Stripe Reader (Track 2) Kit	1833445		■								†	5	■
Magnetic Stripe Reader (Track 3) Kit	1837900			■							†	5	■
Smart Card Reader Kit	1833560				■						†	5	■
Dual Validation Reader (Track 1) Kit	1837984					■					†	5	■
Dual Validation Reader (Track 2) Kit	1838024						■				†	5	■
Dual Validation Reader (Track 3) Kit	1838066							■			†	5	■
HID Proximity Reader Kit‡	1838307								■		†	5	■
Motorola Proximity Reader Kit‡	1838464									■	†	5	■

†. Kit includes one escutcheon gasket for standard B.A.S.I.S. Locks and one escutcheon gasket for B.A.S.I.S. EX Series Exit Hardware Trim.

‡. For standard B.A.S.I.S. V and B.A.S.I.S. V EX Series Exit Hardware Trim.

B.A.S.I.S. G control electronics kits

The control electronics kits described in the table below are used for both standard B.A.S.I.S. G Locks and B.A.S.I.S. G EX Series Exit Hardware Trim. To determine whether a lock has B.A.S.I.S. G or B.A.S.I.S. V electronics, see page 9–8.

		Components								
Kit name	**Part number**	**Magnetic stripe control electronics board**	**Smart card control electronics board**	**Dual validation control electronics board**	**Backup battery**	**Pull-tab for backup battery**	**Temporary operator card**	**Mounting plate screw**	**Lift finger screw**	**Escutcheon gaskets**
B.A.S.I.S. G Magnetic Stripe Control Electronics Kit	1833529	■			■	■	■	5	■	†
B.A.S.I.S. G Smart Card Control Electronics Kit	1833644		■		■	■	■	5	■	†
B.A.S.I.S. G Dual Validation Control Electronics Kit	1838223			■	■	■	■	5	■	†

†. Kit includes one escutcheon gasket for standard B.A.S.I.S. Locks and one escutcheon gasket for B.A.S.I.S. EX Series Exit Hardware Trim.

B.A.S.I.S. V control electronics kits

The control electronics kits described in the table below are used for both standard B.A.S.I.S. V Locks and B.A.S.I.S. V EX Series Exit Hardware Trim. To determine whether a lock has B.A.S.I.S. G or B.A.S.I.S. V electronics, see page 9–8.

		Components											
Kit name	Part number	Magnetic stripe control electronics board	Smart card control electronics board	Dual validation control electronics board	HID proximity control electronics board	Motorola proximity control electronics board	ABA Jumper	Backup battery	Pull-tab for backup battery	Temporary operator card	Escutcheon gaskets	Mounting plate screw	Lift finger screw
B.A.S.I.S. V Magnetic Stripe Control Electronics Kit	1833487	■						■	■	■	†	5	■
B.A.S.I.S. V Smart Card Control Electronics Kit	1833602		■					■	■	■	†	5	■
B.A.S.I.S. V Dual Validation Control Electronics Kit	1838108			■				■	■	■	†	5	■
B.A.S.I.S. V HID Proximity Control Electronics Kit	1838422				■		■	■	■	■	†	5	■
B.A.S.I.S. V Motorola Proximity Control Electronics Kit	1838548					■	■	■	■	■	†	5	■

†. Kit includes one escutcheon gasket for standard B.A.S.I.S. Locks and one escutcheon gasket for B.A.S.I.S. EX Series Exit Hardware Trim.

Battery kits

The Backup Battery Kit is used for all Electronic Stand-Alone Locks and Exit Hardware Trim. The Eight-Cell Battery Upgrade Kit is used only for standard Electronic Stand-Alone Locks.

		Components					
Kit name	Part number	Backup battery	Escutcheon gaskets	Mounting plate screw	Lift finger screw	Eight-Cell battery pack	Eight-Cell battery door
Backup Battery Kit	1833843	■	†	5	■		
Eight-Cell Battery Upgrade Kit (for standard Electronic Stand-Alone Locks)	1838705					■	■

†. Kit includes one escutcheon gasket for standard Electronic Stand-Alone Locks and one escutcheon gasket for Electronic Stand-Alone Exit Hardware Trim.

Cable and harness kits for standard Electronic Stand-Alone Locks

The cable and harness kits described in the table below are used only for standard Electronic Stand-Alone Locks. For the Primary Harness Kit for Electronic Stand-Alone Exit Hardware Trim, see page 4–10.

		Components				
Kit name	Part number	Primary harness	Tape for mounting the sounder	Sensor harness	Conversion harness	Escutcheon gasket
Primary Harness Kit	1833686	■	■			■
Sensor Harness Kit†	1833728			■		■
Conversion Harness Kit†	1833760				■	■

†. For standard B.A.S.I.S. Locks.

Screw kits

This section contains the following:

- Screw kits that are shared by standard Electronic Stand-Alone Locks and Electronic Stand-Alone Exit Hardware Trim
- Screw kits that are used for all standard Electronic Stand-Alone Locks
- Screw and spring kits for EX Series Exit Hardware Trim.

Shared internal screw kits

The internal screw kits described in the table below are used for Electronic Stand-Alone Locks and Electronic Stand-Alone Exit Hardware Trim.

		Components	
Kit name	Part number	Reader assembly mounting screw	Electronics board mounting screw
Reader Assembly Mounting Screw Kit	1838621	25	
Electronics Board Mounting Screw Kit†	1839300		25

†. For standard B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim.

Upper escutcheon screw kits for standard Electronic Stand-Alone Locks

		Components					
Kit name	Part number	Upper escutcheon screw for 1 3/4″ thick doors	Upper escutcheon screw for 2″ thick doors	Upper escutcheon screw for 2 1/4″ thick doors	Upper escutcheon screw for 2 1/2″ thick doors	Upper escutcheon screw for 2 3/4″ thick doors	Upper escutcheon screw for 3″ thick doors
Upper Escutcheon Screw for 1 3/4″ Thick Doors Kit	1846978	25					
Upper Escutcheon Screw for 2″ Thick Doors Kit	1847018		25				
Upper Escutcheon Screw for 2 1/4″ Thick Doors Kit	1847050			25			
Upper Escutcheon Screw for 2 1/2″ Thick Doors Kit	1847091				25		
Upper Escutcheon Screw for 2 3/4″ Thick Doors Kit	1847133					25	
Upper Escutcheon Screw for 3″ Thick Doors Kit	1847175						25

Lower escutcheon screw kits for standard Electronic Stand-Alone Locks

		Components					
Kit name	Part number	Lower escutcheon screw for 1 3/4″ thick doors	Lower escutcheon screw for 2″ thick doors	Lower escutcheon screw for 2 1/4″ thick doors	Lower escutcheon screw for 2 1/2″ thick doors	Lower escutcheon screw for 2 3/4″ thick doors	Lower escutcheon screw for 3″ thick doors
Lower Escutcheon Screw for 1 3/4″ Thick Doors Kit	1877702	10					
Lower Escutcheon Screw for 2″ Thick Doors Kit	1877744		10				
Lower Escutcheon Screw for 2 1/4″ Thick Doors Kit	1876557			10			
Lower Escutcheon Screw for 2 1/2″ Thick Doors Kit	1876599				10		
Lower Escutcheon Screw for 2 3/4″ Thick Doors Kit	1876630					10	
Lower Escutcheon Screw for 3″ Thick Doors Kit	1876672						10

Battery door screw kits for standard Electronic Stand-Alone Locks

The battery door screw kits described in the table below are used only for standard Electronic Stand-Alone Locks. For the battery cover and battery bracket screw kits for EX Series Exit Hardware Trim, see the table at the bottom of this page.

		Components	
Kit name	**Part number**	**McGard battery door screw**	**TORX battery door screw**
McGard Battery Door Screw Kit	1839489	10	
TORX Battery Door Screw Kit	1839447		25

Screw and spring kits for Electronic Stand-Alone Exit Hardware Trim

		Components									
Kit name	**Part number**	**TORX battery cover screw**	**1 1/4″ battery bracket screw**	**1 3/4″ battery bracket screw**	**Mounting standoff**	**Mounting plate screw**	**Lever return spring**	**Shoulder screw (for yoke)**	**Lift finger screw**	**Motor mounting screw**	**Motor stop spacer**
TORX Battery Cover Screw Kit	1879139	10									
Battery Bracket Screw Kit for Doors Less than 2″ Thick Kit	1879055		10								
Battery Bracket Screw for Doors 2″ Thick or Greater Kit	1879097			10							
Mounting Standoff Kit	1877587				10						
Mounting Plate Screw Kit	1879170					10					
Lever Return Spring Kit	1877545						10				
Shoulder Screw (for Yoke) Kit	1879338							10			
Lift Finger Screw Kit	1879411								10		
Motor Mounting Screw Kit	1879370									10	10

Internal part kits for Electronic Stand-Alone Exit Hardware Trim

Kit name	Part number	Components: Primary harness	Tape for mounting the sounder	Motor assembly	Socket head screw	Spacer	Shear pin	Shoulder screw	Mounting plate screw	Lift finger screw	Escutcheon gasket
Primary Harness Kit†	1878931	■	■						5	■	■
Motor Assembly Kit	1878973		■	■	■	■			5	■	■
Shear Pin Kit	1879013						■	4	5	■	■

†. For B.A.S.I.S. EX Series Exit Hardware Trim.

Sensor module kits for standard Electronic Stand-Alone Locks

Kit name	Part number	Components: Sensor module with deadbolt & key override	Sensor module with key override	Sensor module with deadbolt
Sensor Module with Deadbolt & Key Override Kit	1833885	■		
Sensor Module with Key Override Kit	1833927		■	
Sensor Module with Deadbolt Kit	1838747			■

OTHER B.A.S.I.S. SYSTEM COMPONENTS

The components described in this section are used with both standard B.A.S.I.S. Locks and B.A.S.I.S. EX Series Exit Hardware Trim.

Other system components diagram

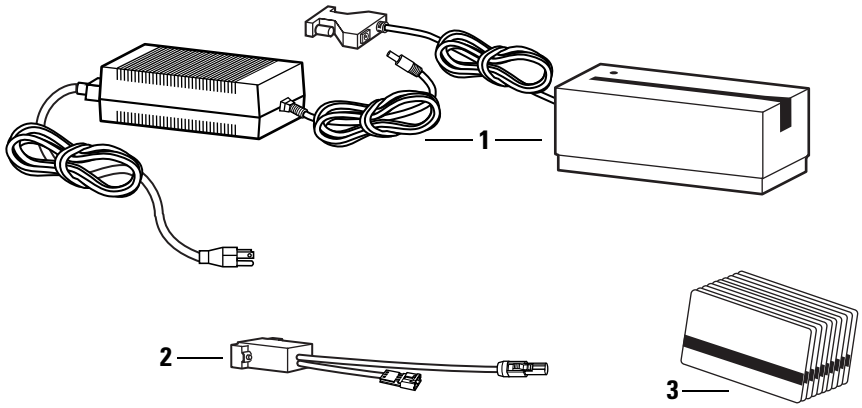


Figure 4.1 Other system components diagram

Other system components parts list

Refer to Figure 4.1 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	BASD–MSE†	1	Magnetic stripe card encoder with power supply
not shown	BASD–SCE†	1	Smart card encoder
2	BASD–CAB†	2	Programming cable
3	VPA–PVC†	1	PVC cards (box of 500)
not shown	VPA–POLY†	1	Polyester cards (box of 500)
not shown	VPA–CUST†	----	Photo identification/custom cards
not shown	VPD–CLN†	1	Cleaning Cards (box of 50)
not shown	VPA–HID–1326†	----	HID ProxCard II Proximity Card 1326
not shown	VPA–HID–1336†	----	HID DuoProx II Proximity Card 1336
not shown	VPA–MOT–ISO30†	----	Motorola Image 30 Proximity Card ISO-30+
not shown	VPA–MOT–ASC121T†	----	Motorola LifeTime Proximity Card ASC-121T+

†. Contact your BEST Representative for more details.

5 SERVICING STANDARD MORTISE TRIM PARTS

This chapter contains instructions for servicing standard Electronic Stand-Alone Mortise Lock trim parts.

- To remove all of the trim parts from the door, perform all of the steps for removing parts in each section of this chapter. Begin with the levers (page 5–2).
- To reinstall all of the trim parts onto the door, perform all of the steps for reinstalling parts in each section of this chapter. For standard B.A.S.I.S. Locks, begin with the cylinder (page 5–18). For standard Keypad EZ Locks, begin with the mounting plates (page 5–17).
- To service an individual part, see the section for that part. The instructions refer to other sections as necessary.

If you need to service…	See…
Levers	page 5–2
Core	page 5–3
Mortise case faceplate	page 5–4
Keypad EZ cylinder	page 5–5
Inside and outside escutcheons	page 5–6
Mounting plates	page 5–17
B.A.S.I.S. cylinder	page 5–18

Note: When servicing parts, always test that the lock works properly when you're finished.

SERVICING THE LEVERS

Removing the levers

1. Remove the set screw cap and use a 1/8″ Allen wrench to remove the set screw from the inside lever.
2. Remove the inside lever, then the outside lever and spindle assembly from the door.

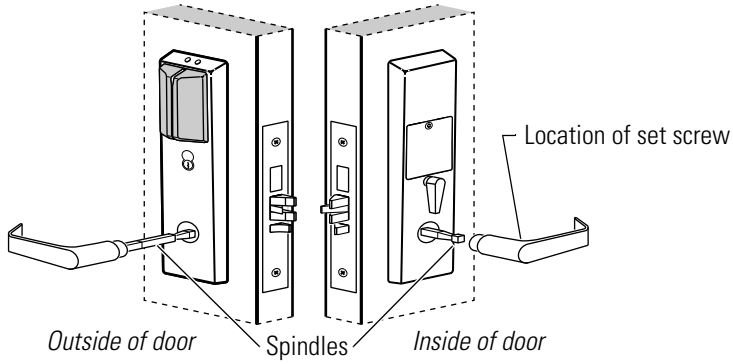


Figure 5.1 Removing and reinstalling the levers (B.A.S.I.S. Lock shown)

Reinstalling the levers

1. Unscrew the inside spindle one full turn to allow the spindles to turn freely.
2. With the handle pointing toward the door hinges, insert the outside lever and spindles assembly into the lock from the outside of the door.
3. Slide the inside lever onto the inside spindle and secure it with the set screw.
4. *If you removed the escutcheons from the door*, make sure that the core is positioned properly in the outside escutcheon (B.A.S.I.S. EV and FV function), the escutcheons are aligned properly on the door, and tighten the escutcheon mounting screws.

   Note: For a description of lock functions, see page 2–2.
5. Turn the levers to check that they operate smoothly.

SERVICING THE CORE

Perform these steps for EV and FV function locks only.

Note: For a description of lock functions, see page 2–2.

Removing the core

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core from the cylinder.

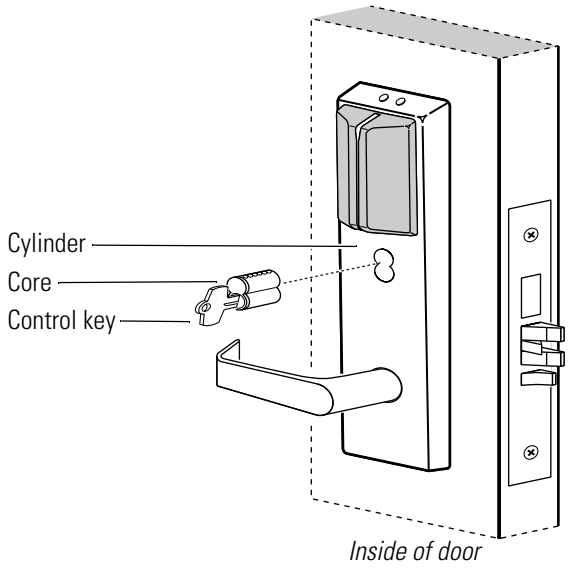


Figure 5.2 Removing and reinstalling the core (B.A.S.I.S. Lock shown)

Reinstalling the core

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. With the control key in the core, insert the core into the cylinder.
3. Rotate the control key 15 degrees to the left and withdraw the key.

Caution

The control key can be used to remove cores and to access doors. Provide adequate security for the control key.

SERVICING THE MORTISE CASE FACEPLATE

Removing the mortise case faceplate

Unscrew the two faceplate screws and remove the mortise case faceplate from the lock. Save the screws.

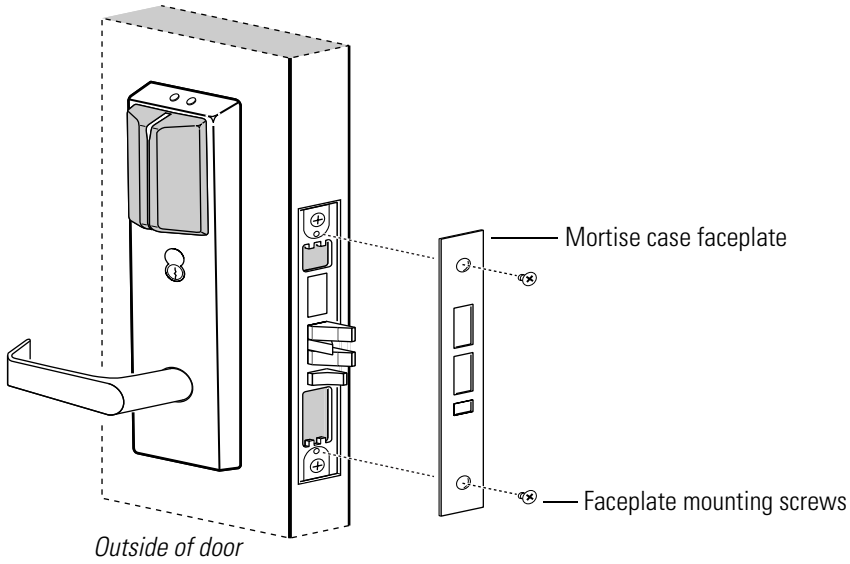


Figure 5.3 Removing and reinstalling the mortise case faceplate (B.A.S.I.S. Lock shown)

Reinstalling the mortise case faceplate

1. Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.
2. Check the lock for proper operation.

SERVICING THE KEYPAD EZ CYLINDER

Perform these steps for Keypad EZ EV and FV function locks only.

Note: For a description of lock functions, see page 2–2.

Removing the cylinder

1. Remove the following parts:
   - core (page 5–3)
   - mortise case faceplate (page 5–4).
2. Loosen the cylinder clamp screw, found on the inside of the mortise case.
3. Use a cylinder wrench (ED211) to turn the cylinder counterclockwise until you can remove it.

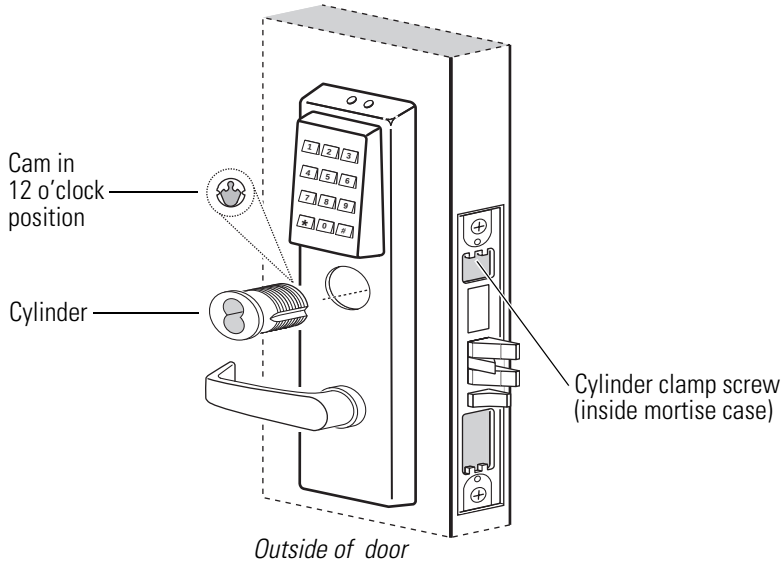


Figure 5.4 Removing and reinstalling the Keypad EZ cylinder

Reinstalling the cylinder

1. Rotate the cylinder cam to the 12 o'clock position as shown in Figure 5.4.
2. Use a cylinder wrench (ED211) to thread the cylinder into the mortise case.
3. Secure the cylinder in the mortise case with the cylinder clamp screw.
4. Reinstall the following parts:
   - core (page 5–3)
   - mortise case faceplate (page 5–4).

SERVICING THE INSIDE AND OUTSIDE ESCUTCHEONS

Removing the inside and outside escutcheons

1. Remove the following parts:
   - levers. See page 5–2.
   - *for Keypad EZ EV and FV function locks*, the core (page 5–3), the mortise case faceplate (page 5–4), and the cylinder (page 5–5).
2. Remove the battery door:
   a. Use a T15 TORX bit driver to remove the security screw from the battery door.
   b. Open the battery door and remove it from the escutcheon.

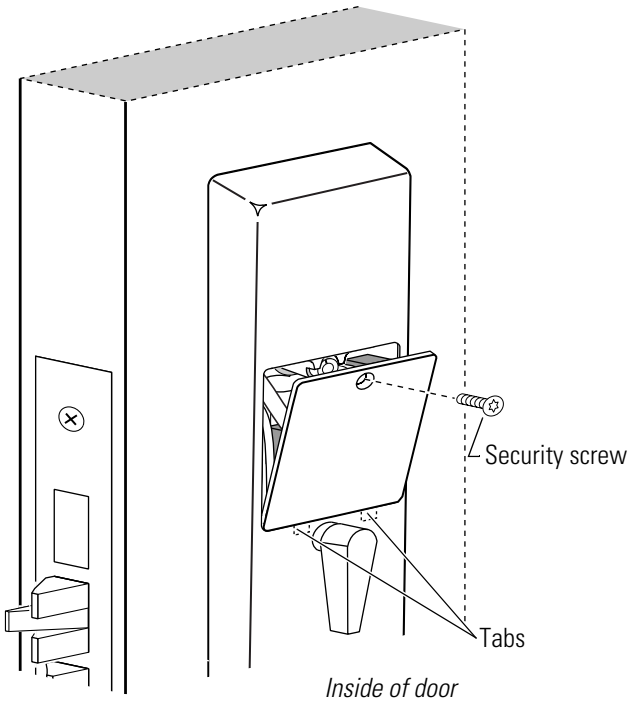


Figure 5.5 Removing the battery door (four-cell door shown)

3. Remove the battery pack:
   a. Remove the battery pack from the battery compartment.
   b. Disconnect the battery pack from the battery connector on the wire harness.

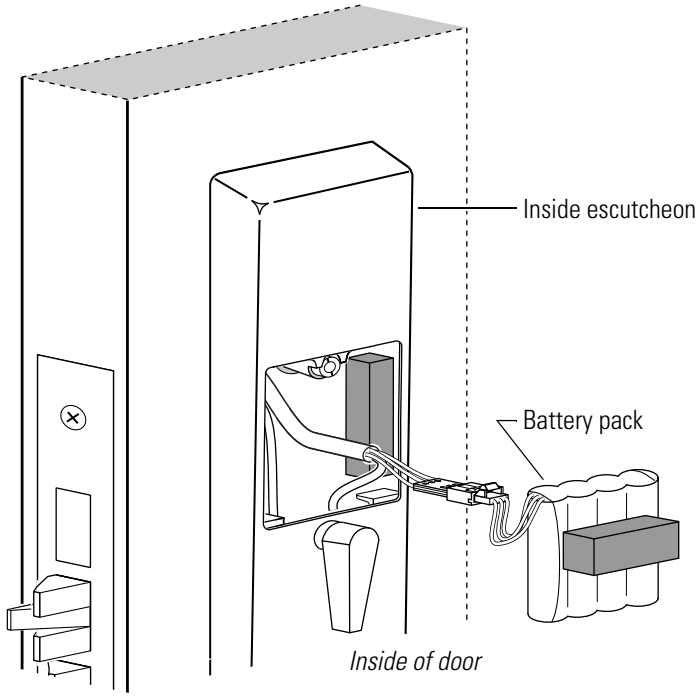


Figure 5.6 Removing the battery pack (four-cell pack shown)

4. Remove the escutcheons:
   a. From the inside of the door, remove the upper and lower escutcheon screws.

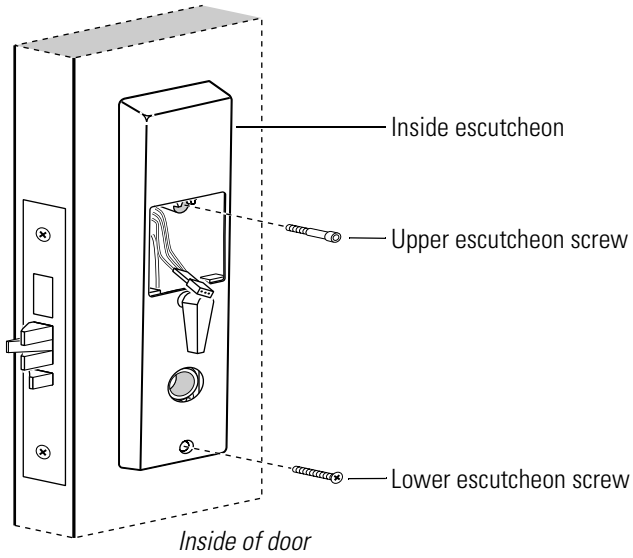


Figure 5.7 Removing the inside escutcheon

Caution

Do not dangle the Keypad EZ inside escutcheon by the grounding cable.

b. *For Keypad EZ Locks*, remove the screw connecting the grounding cable terminal to the inside escutcheon. Save the screw.

c. Remove the inside escutcheon from the door.

d. From the inside of the door, disconnect the motor connector, the key override sensor connector (B.A.S.I.S. EV and FV function locks, optional for B.A.S.I.S. G), the deadbolt sensor connector (FV and LV function locks).

e. *For Keypad EZ Locks wired to a remote unlock device*, disconnect the remote unlock connection.

Note: For a description of lock functions, see page 2–2.

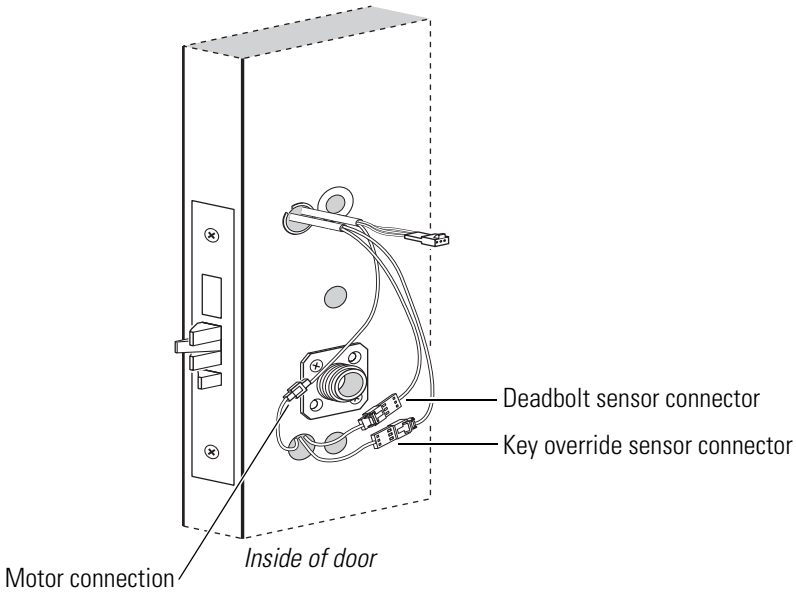


Figure 5.8 Disconnecting the motor connector and sensor connector (B.A.S.I.S. Lock shown)

f. Remove the bushings and trim hole inserts from each side of the door.

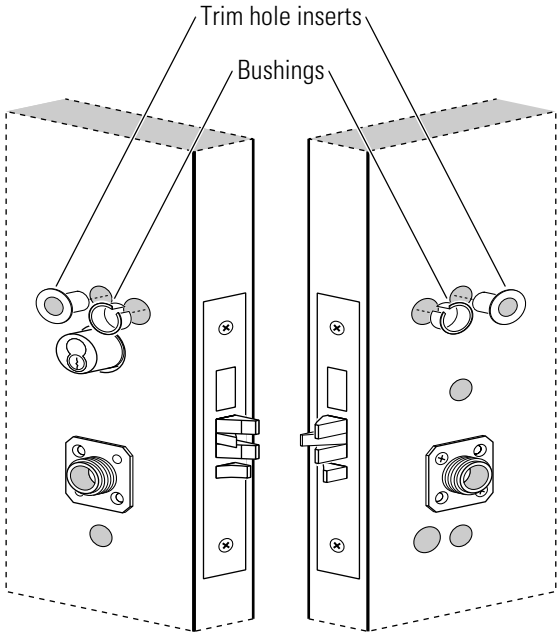


Figure 5.9 Removing the bushings and trim hole inserts (B.A.S.I.S. Lock shown)

g. Remove the outside escutcheon from the door, feeding the motor connector and sensor connectors out the harness hole.

Caution

When removing the outside escutcheon, make sure that the harnesses are not rubbed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

Reinstalling the inside and outside escutcheons

1. *If you are installing a new B.A.S.I.S. outside escutcheon*, activate the backup battery:
   a. Locate the backup battery tab on the inside of the outside escutcheon.
   b. Pull down on the tab and remove it from the outside escutcheon to turn on the backup battery.

Caution

For the lock to operate properly, you must remove the backup battery tab.

Caution

Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.

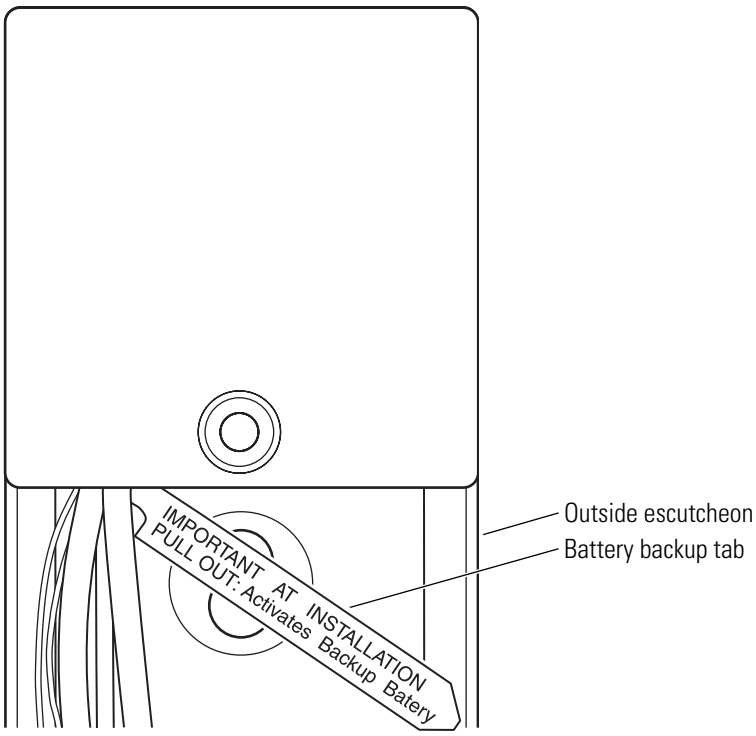


Figure 5.10 Locating the backup battery tab for B.A.S.I.S. Locks

2. Install the trim hole inserts and bushings:
   a. Insert the two trim hole inserts into the upper trim hole on each side of the door.
   b. Insert the two bushings into the harness hole on each side of the door.

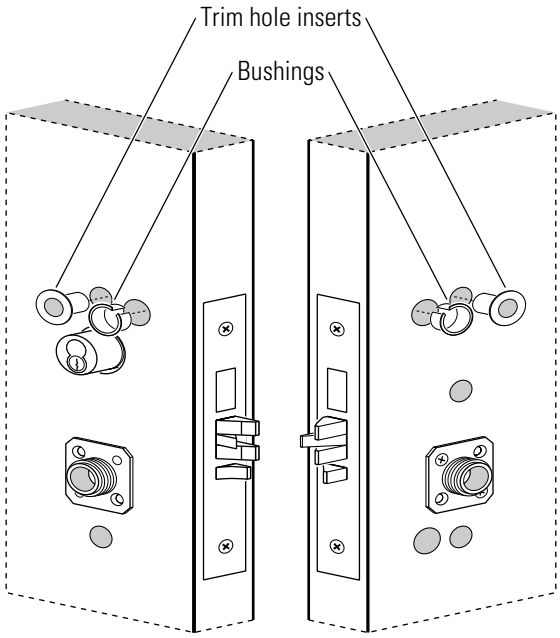


Figure 5.11 Reinstalling the trim hole inserts and bushings (B.A.S.I.S. Lock shown)

3. From the outside of the door, feed the motor connector, battery connector, remote unlock wires (Keypad EZ Locks) and sensor connectors through the harness hole.

   Note: B.A.S.I.S. NV function locks and Keypad EZ Locks do not have a sensor harness.

Caution

When routing the connectors, make sure the harnesses are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

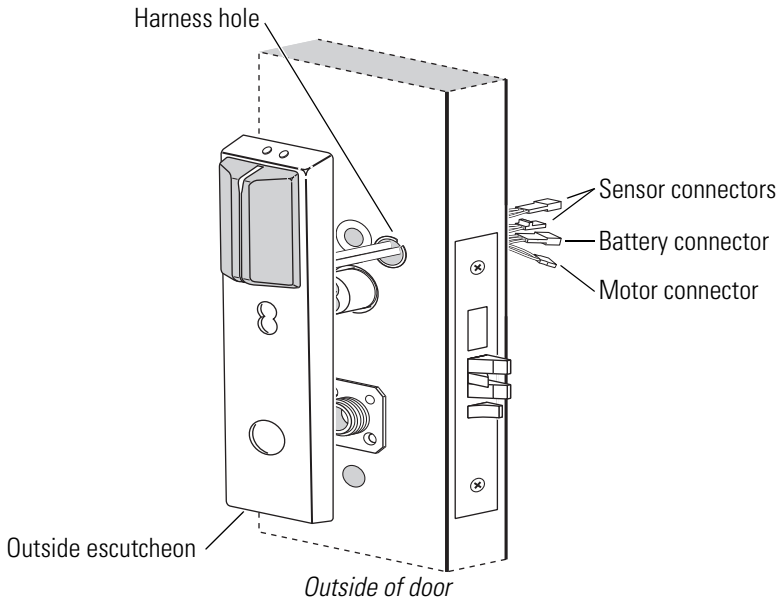


Figure 5.12 Feeding the wire harness connectors through the harness hole (B.A.S.I.S. Lock shown)

4. Rest the outside escutcheon on the door by inserting the trim studs into the trim holes.

   Note: You can temporarily install the outside lever to hold the outside escutcheon in place. See *Reinstalling the levers* (page 5–2).

5. From the inside of the door, make the motor connection, the key override sensor connection (B.A.S.I.S. EV and FV function locks, optional for B.A.S.I.S. G), and the deadbolt sensor connection (FV and LV function locks).

   Note 1: It is physically possible to connect the key override sensor connector from the mortise case to the battery connector from the wire harness.

   Note 2: For a description of lock functions, see page 2–2.

Caution

When making the motor connection and sensor connections, make sure:

- *there are no loose wire connections where the wires are inserted into the connectors*
- *the connectors are firmly mated.*

The following table describes the motor and sensor connections.

Wire connection	Colors	No. of wires	No. of pins
Motor	Yellow Gray	2	2
Key override sensor	Gray	2	3
Deadbolt sensor	Blue (B.A.S.I.S.) Orange (Keypad EZ)	2	3
Remote unlock	Brown	2	–

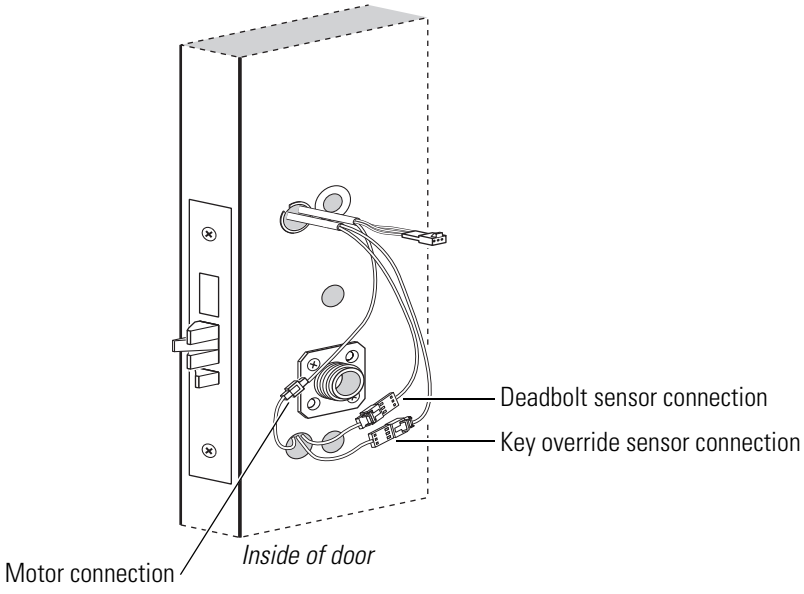


Figure 5.13 Making the motor connection and sensor connections

6. *For Keypad EZ Locks to be wired to a remote unlock device*, make the remote unlock connections with wire nuts or crimp connectors.
7. *For Keypad EZ Locks*, connect the grounding cable to the inside of the inside escutcheon as shown in Figure 5.14.

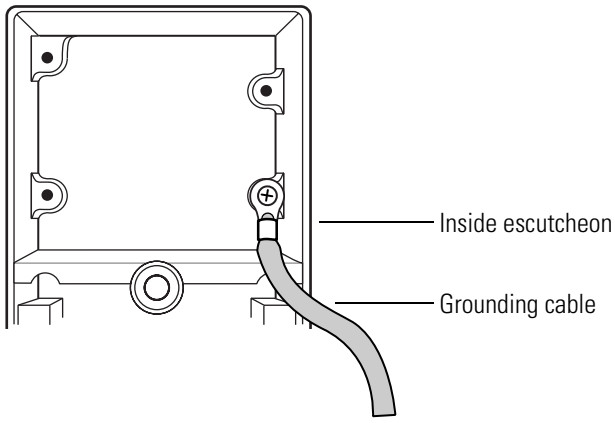


Figure 5.14 Connecting the grounding cable for Keypad EZ Locks

8. Secure the escutcheons:
   a. Position the inside and outside escutcheons on the door.
   b. Making sure that the escutcheons do not pinch the wires, secure the escutcheons to the door. Do not tighten the screws completely. Use the upper mounting screw in the upper trim hole and the lower mounting screw in the lower trim hole.

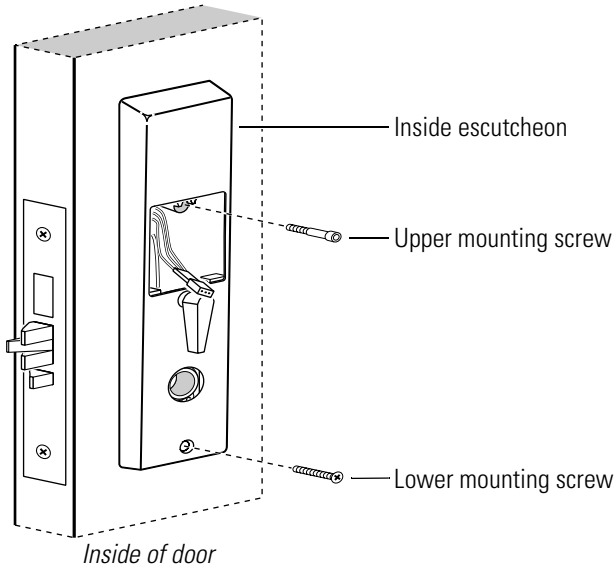


Figure 5.15 Securing the escutcheons

9. Reinstall the levers, and tighten the escutcheon mounting screws. See page 5–2.

10. Reinstall the battery pack:

    a. Connect the battery pack to the battery connector on the wire harness inside the battery compartment.

    Note: The battery connection has 3 wires and 3 pins. The wire colors are:

    - red with white stripe
    - white
    - black with white stripe.

Caution

When connecting the battery pack, make sure:

- *there are no loose wire connections where the wires are inserted into the connectors*
- *the connectors are firmly mated.*

    b. Place the battery pack inside the battery compartment.

    Note: For the four-cell battery pack, position the battery so that the foam will face the battery door.

Caution

When routing the battery wires, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

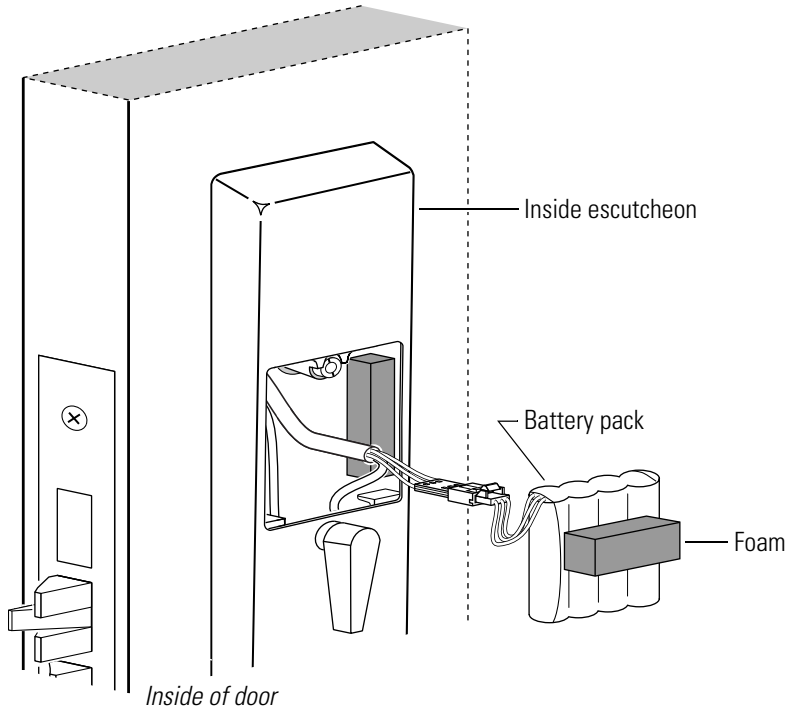


Figure 5.16 Reinstalling the battery pack (four-cell pack shown)

11. Reinstall the battery door:
    a. *Making sure that the battery door does not pinch any wires*, insert the tabs of the battery door into its mating slots and swing the door closed.
    b. Use a T15 TORX bit driver to secure the battery door with the security screw. Tighten firmly.

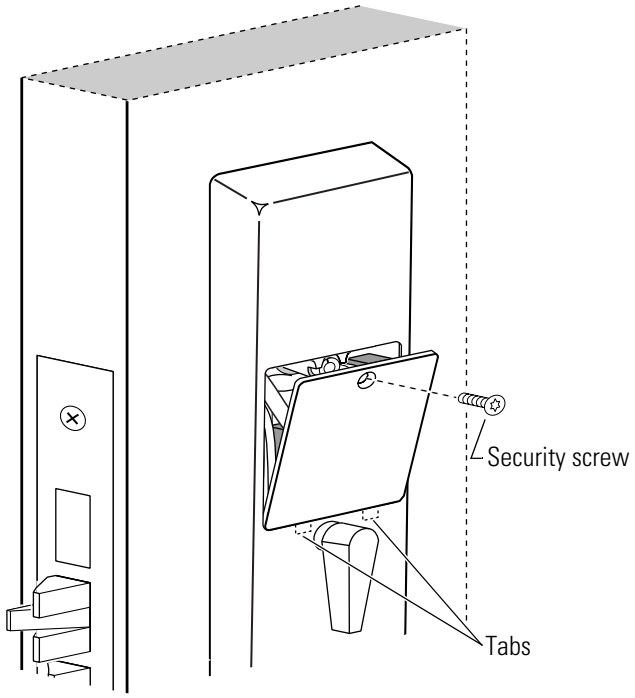


Figure 5.17 Reinstalling the battery door (four-cell door shown)

SERVICING THE MOUNTING PLATES

Removing the mounting plates

1. Remove the following parts:
   - levers (page 5–2)
   - *for Keypad EZ EV and FV function locks*, the core (page 5–3), the mortise case faceplate (page 5–4), and the cylinder (page 5–5)
   - inside and outside escutcheons (page 5–6).
2. Remove the two mounting plate screws from the inside of the door. Save the screws.
3. *For Keypad EZ Locks*, remove the grounding cable.
4. Remove the outside and inside mounting plates.

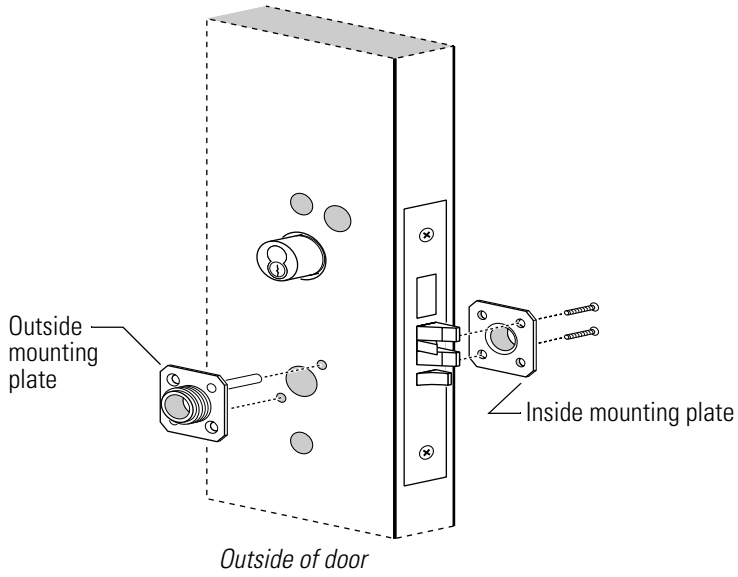


Figure 5.18 Removing and reinstalling the mounting plates (B.A.S.I.S. Lock shown)

Reinstalling the mounting plates

1. Insert the outside mounting plate through the door and mortise case.
2. Position the inside mounting plate opposite the outside mounting plate. *For Keypad EZ Locks*, insert the top mounting plate screw through the larger terminal on the grounding cable. Screw the mounting plates securely in place, securing the grounding cable to the inside mounting plate.

Caution

Do not overtighten the mounting plate screws. Overtightening may compress the mortise cavity and bind the locking mechanism.

3. Reinstall the following parts:
   - inside and outside escutcheons (page 5–10)
   - for Keypad EZ EV and FV function locks, the core (page 5–3), the mortise case faceplate (page 5–4), and the cylinder (page 5–5)
   - levers (page 5–2).

SERVICING THE B.A.S.I.S. CYLINDER

Perform these steps for EV and FV function B.A.S.I.S. Locks only.

Note: For a description of lock functions, see page 2–2.

Removing the cylinder

1. Remove the following parts:
   - levers (page 5–2)
   - core (page 5–3)
   - mortise case faceplate (page 5–4)
   - inside and outside escutcheons (page 5–6).
2. Loosen the cylinder clamp screw, found on the inside of the mortise case.
3. Use a cylinder wrench (ED211) to turn the cylinder counterclockwise until you can remove it.

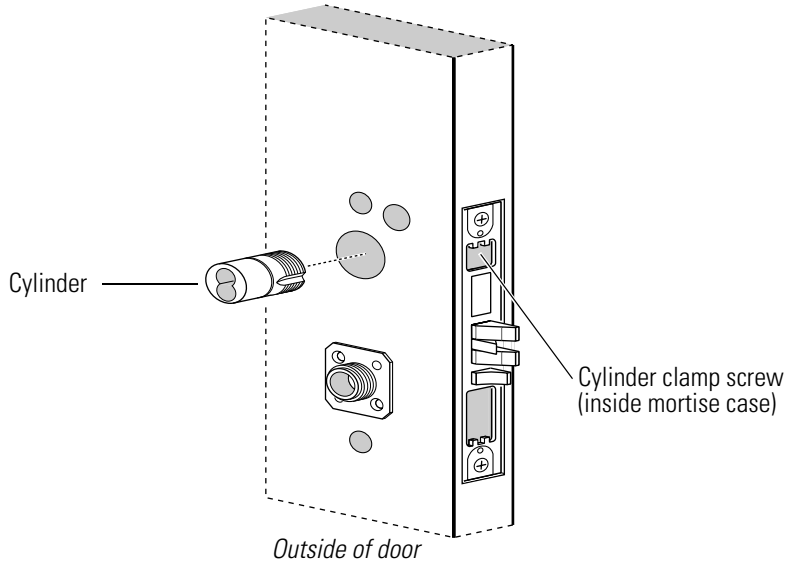


Figure 5.19 Removing and reinstalling the B.A.S.I.S. cylinder

Reinstalling the cylinder

1. Use a cylinder wrench to thread the cylinder into the mortise case so that the groove around the cylinder head is even with the door surface.

   Note: Do not tighten the cylinder clamp screw until you reinstall the outside escutcheon.

Caution

A malfunction can occur if the cylinder is threaded in too far.

2. Reinstall the following parts:
   - inside and outside escutcheons (page 5–10)
   - mortise case faceplate (page 5–4)
   - core (page 5–3)
   - levers (page 5–2).

6 SERVICING STANDARD MORTISE CASE PARTS

This chapter contains instructions for servicing mortise case parts for standard Electronic Stand-Alone Locks.

If you need to…	See…
Remove the mortise case from the door and open the case	page 6–2
Change the hand or bevel	page 6–4
Perform function conversion	page 6–11
Service parts inside the mortise case	page 6–15

Note: When replacing parts, always test that the lock works properly when you're finished.

SERVICING THE MORTISE CASE

Removing and opening the mortise case

1. Remove the inside and outside trim from the door. Instructions begin on page 5–1.
2. From the edge of the door, remove the two case mounting screws.
3. Remove the mortise case from the door.

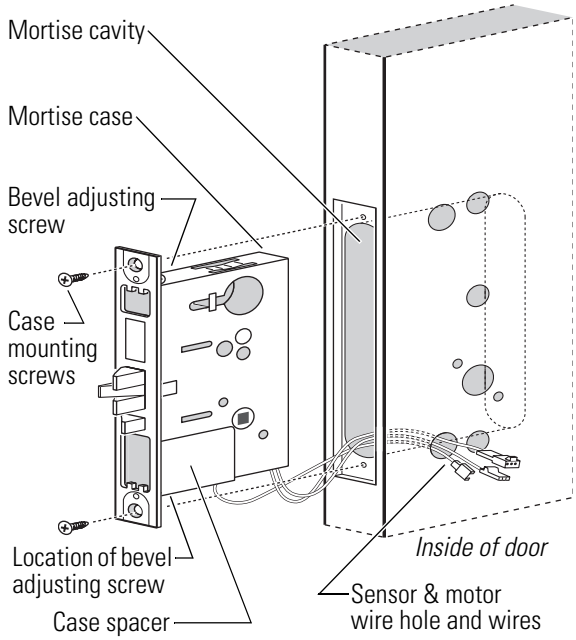


Figure 6.1 Removing and reinstalling the mortise case (B.A.S.I.S. Lock shown)

4. Set the mortise case on a flat surface.
5. *For mortise cases with a plastic case spacer,* remove the case spacer from the case. The plastic case spacer is tension mounted.

   For mortise cases with a metal case spacer, remove the case cover screw from the case spacer. Remove the case spacer.
6. Remove the case cover screws. There are five screws total.
7. Carefully remove the case cover. Many parts are spring loaded and may shift.

Closing and reinstalling the mortise case

1. Route the motor and sensor wires through the openings in the case.
2. Place the case cover on the mortise case.
3. *For mortise cases with a metal case spacer*, install four of the case cover screws. Do not install the screw that holds the case spacer in place.
4. *For mortise cases with a plastic case spacer*, make sure that the motor wire exiting the mortise case is routed through the raised loop on the case spacer.

   Snap the plastic case spacer into position on the mortise case. Make sure that the motor wire is flat against the case and the connector is routed toward the armored front of the case.

   Note: The plastic case spacer helps prevent pinching and nicking of the motor wire during installation of the trim.

   For mortise cases with a metal case spacer, position the case spacer on the mortise case and install the remaining case cover screw.
5. Insert the mortise case into the mortise cavity, while feeding the sensor and motor wires into the mortise cavity and out the sensor & motor wire hole to the inside of the door.

   Note: If the armored front of the mortise case is not flush with the door edge, remove the case and loosen the screws at the top and bottom of the case. Adjust the bevel of the armored front of the mortise case to match the bevel of the door. Tighten the screws and insert the mortise case back into the mortise cavity.
6. Secure the mortise case with the case mounting screws.
7. Reinstall the inside and outside trim on the door. Instructions begin on page 5–1.

CHANGING THE HAND AND BEVEL

This section describes how to change the hand and/or bevel of the lock. The section includes a quick reference, outlines of the tasks required to change the hand and/or bevel, and detailed instructions for each task. Each outline references the detailed instructions for each task found in *Tasks for changing the hand and bevel*, which begins on page 6–7.

Changing hand and bevel quick reference

Review the diagram below to understand the hand and bevel of the door.

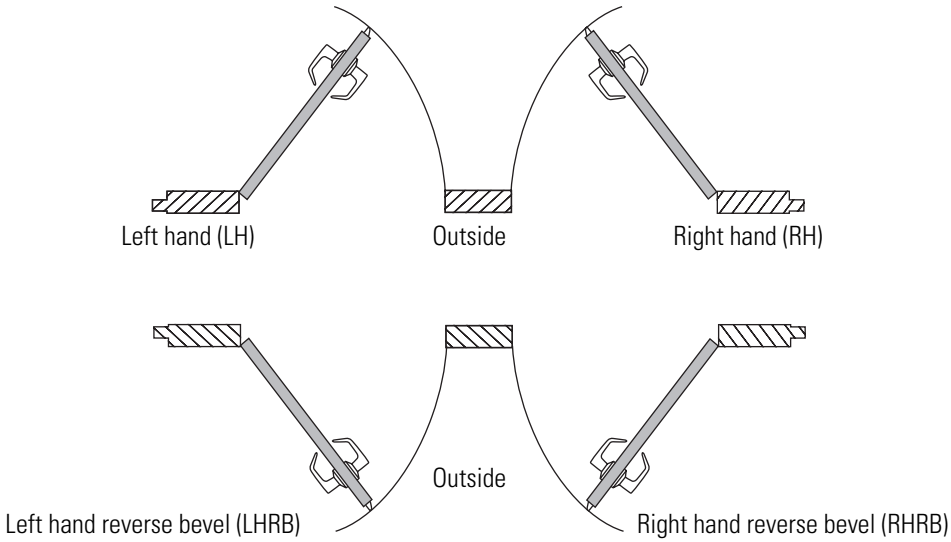


Figure 6.2 Explanation of the hand and bevel of the door

The following diagram and table show which components need to be turned over when changing the hand and bevel. See the section that follows for instructions.

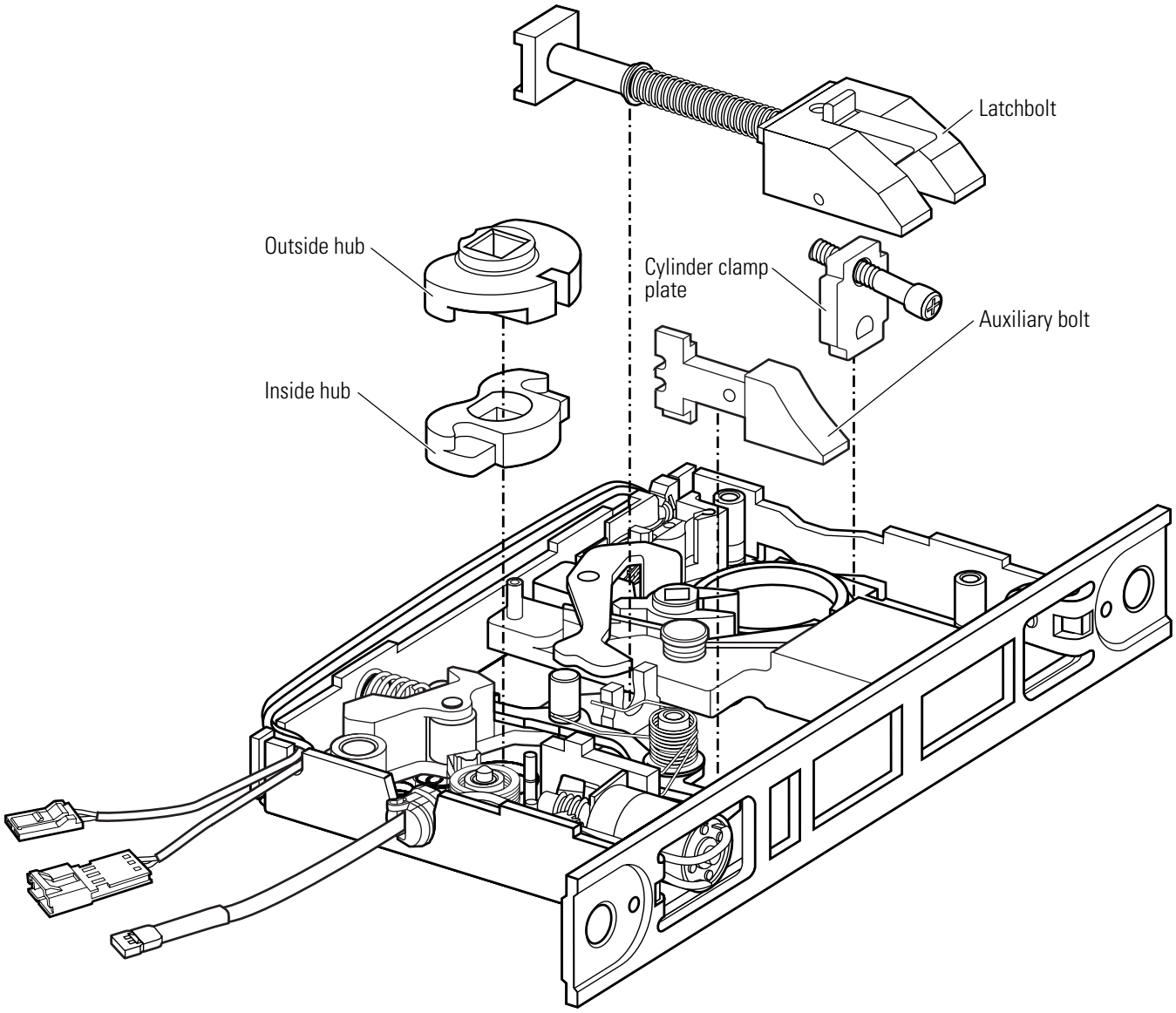


Figure 6.3 Overview of changing the hand and bevel (B.A.S.I.S. FV function, LH case shown)

- B represents the latchbolt and auxiliary bolt
- H represents the hubs
- C represents the cylinder clamp plate assembly.

	LH	RH	LHRB	RHRB
LH		B/H/C	B	H/C
RH	B/H/C		H/C	B
LHRB	B	H/C		B/H/C
RHRB	H/C	B	B/H/C	

The following table shows how the bolts, hubs, and cylinder clamp plate should be oriented for the hand and bevel options. The orientation indicated assumes that the case is on a flat surface, the case cover has been removed, and the part is in the case.

	Bolts	Outside hub	Inside hub	Clamp plate
LH	bevel up	top	bottom	screw up
RH	bevel down	bottom	top	screw down
LHRB	bevel down	top	bottom	screw up
RHRB	bevel up	bottom	top	screw down

Changing the hand only

Refer to the detailed instructions for each task that follows.

1. Remove and open the mortise case (page 6–2).
2. Perform the steps in *Turning over the hubs* (page 6–7).
3. If the lock has key override, perform the steps in *Turning over the cylinder clamp plate* (page 6–8).
4. Perform the steps in *Turning over the auxiliary bolt* (page 6–9).
5. Perform the steps in *Turning over the latchbolt* (page 6–10).
6. Close and reinstall the mortise case (page 6–3).

Changing the bevel only

Refer to the detailed instructions for each task that follows.

1. Remove and open the mortise case (page 6–2).
2. Perform the steps in *Turning over the auxiliary bolt* (page 6–9).
3. Perform the steps in *Turning over the latchbolt* (page 6–10).
4. Close and reinstall the mortise case (page 6–3).

Changing the hand and bevel

Refer to the detailed instructions for each task that follows.

1. Remove and open the mortise case (page 6–2).
2. Perform the steps in *Turning over the hubs* (page 6–7).
3. If the lock has key override, perform the steps in *Turning over the cylinder clamp plate* (page 6–8).
4. Close and reinstall the mortise case (page 6–3).

Tasks for changing the hand and bevel

Turning over the hubs

1. Rotate the locking bar and motor module. See Figure 6.4 and Figure 6.5. Remove the locking bar from the case.
2. Remove the top hub from the case, maintaining the hub's orientation.
3. Push the hub lever toward the side of the case and remove the bottom hub from the case. Maintain the hub's orientation.
4. Turn over the hubs.
5. Push the hub lever toward the side of the case and slide the now bottom hub under the auxiliary levers.
6. Insert the now top hub onto the bottom hub.

Note: The inside hub is silver-colored. It is always on the side of the case that faces the inside of the door. The outside hub is gold-colored. It is always on the side of the case that faces the outside of the door.

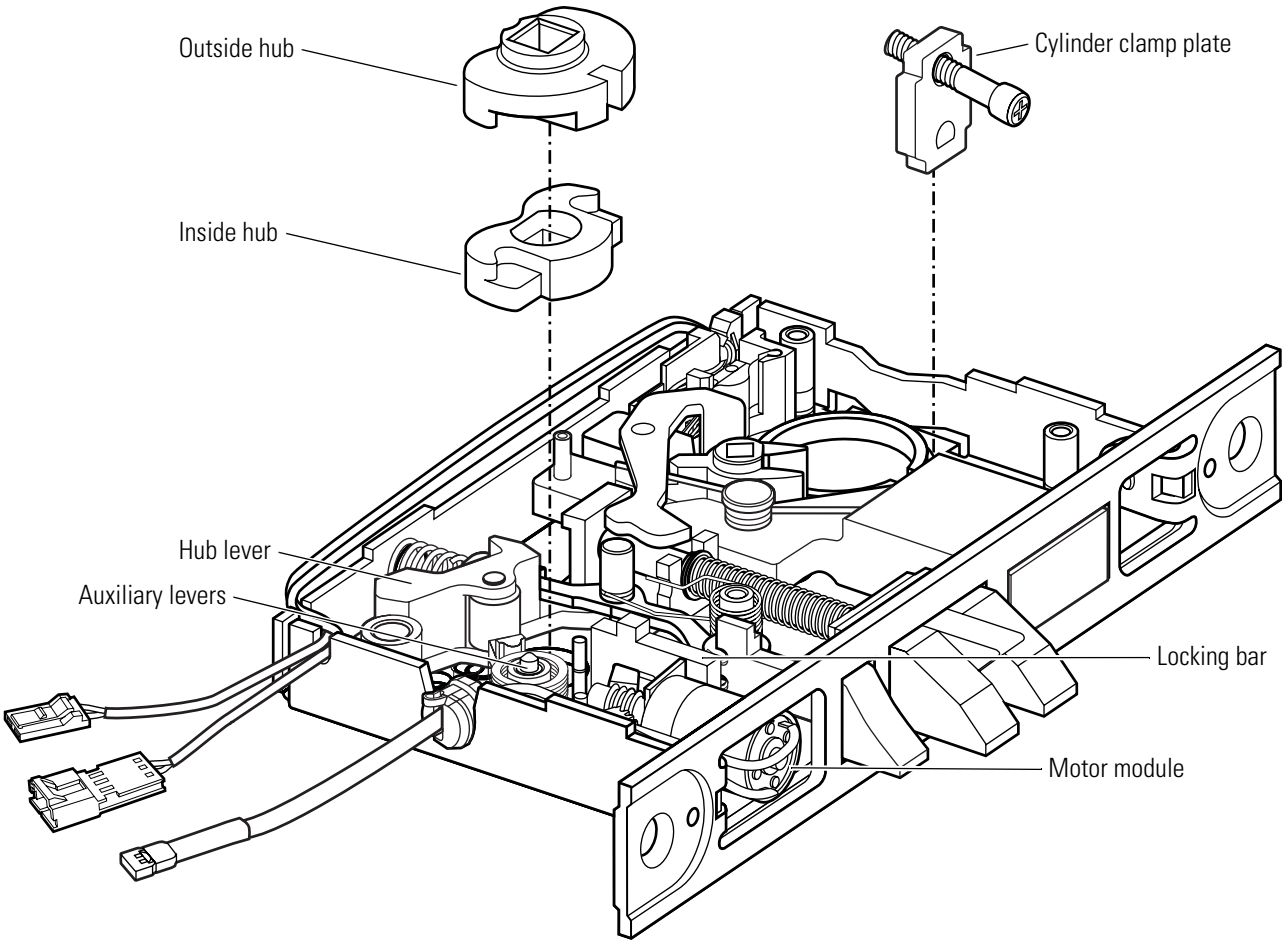


Figure 6.4 Turning over the hubs and cylinder clamp plate (B.A.S.I.S. FV function, LH case shown)

7. Insert the motor module's actuator into the opening in the locking bar. See Figure 6.5. Rotate the components into place. The motor module locks into place in the case. The locking bar fits into the slot on the outside hub. The two feet on the bottom of the locking bar fit into the bottom of the case.

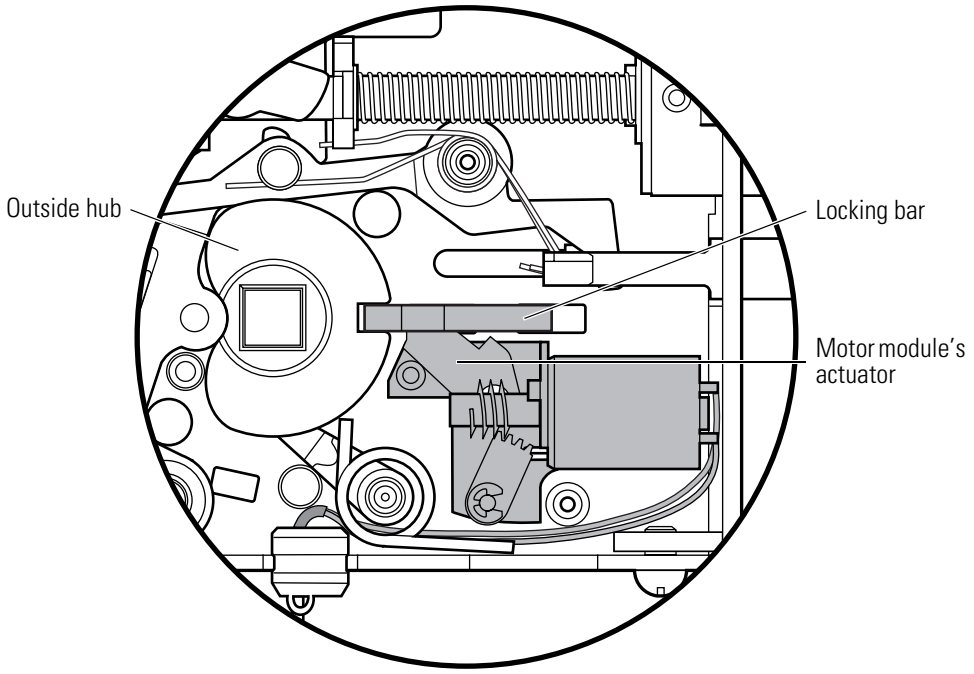


Figure 6.5 Motor module and locking bar in place

Turning over the cylinder clamp plate

Turn over the cylinder clamp plate and insert it in the case. See Figure 6.4.

Note: The screw must be on the same side of the case as the cylinder.

Turning over the auxiliary bolt

1. Remove the auxiliary bolt spring and the deadlocking spring. See Figure 6.6.
2. Remove the auxiliary bolt from the case and turn it over.
3. Insert the auxiliary bolt into the case. The beveled portion of the bolt should be pushed through the front of the case and the feet should be resting in the slot.

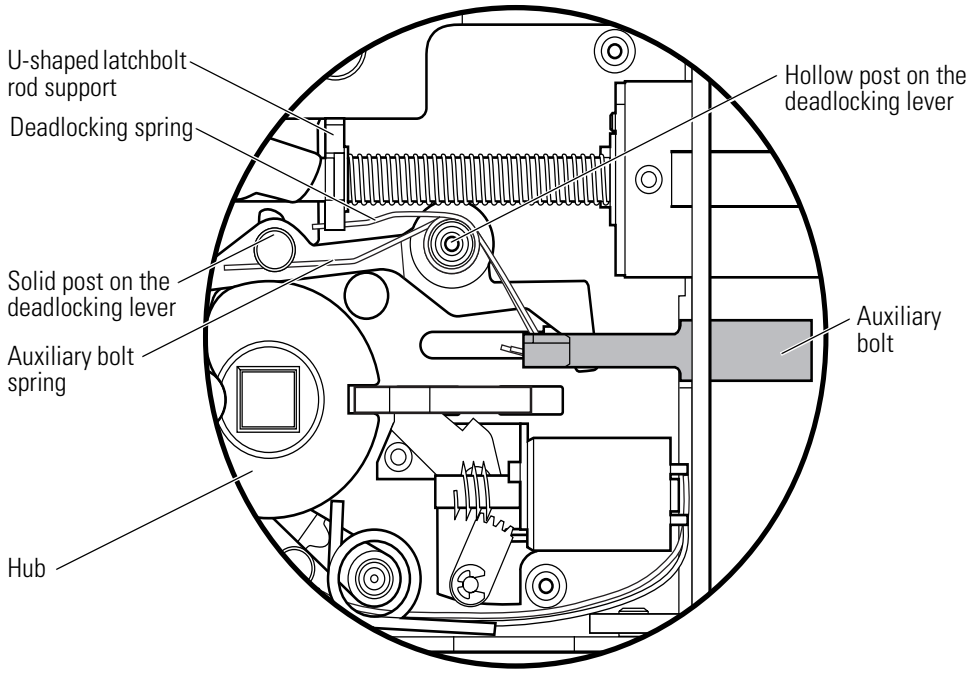


Figure 6.6 Turning over the auxiliary bolt

4. Place the auxiliary bolt spring, bent shank up, onto the hollow post on the deadlocking lever. Then place the deadlocking spring, bent shank down, on top of the auxiliary bolt spring. The center of both spring coils should rest around the hollow post.
5. Position the long, straight shank of the auxiliary bolt spring so it rests between the solid post on the deadlocking lever and the hubs. Position the short, straight shank of the deadlocking spring against the U-shaped latchbolt rod support.
6. While holding the springs on the post, grasp the bent shanks of both springs and fit them into the top groove on the auxiliary bolt. The spring tension should push the bolt toward the front of the case.

Turning over the latchbolt

1. Remove the latch lever. See Figure 6.8
2. Slide the brass grommet on the latchbolt away from the U-shaped latchbolt rod support. Grasp the latchbolt by the square-shaped tail and pull the latchbolt up and out of the case.
3. Turn over the latchbolt and rotate the anti-friction latch lever into position. See Figure 6.7. Place the latchbolt in the case.

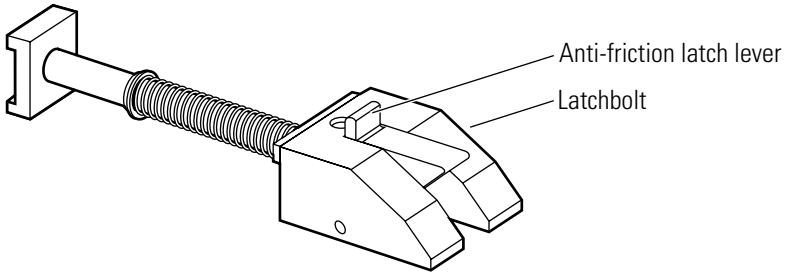


Figure 6.7 Latchbolt with anti-friction latch lever in position

4. Slide the brass grommet on the latchbolt away from the U-shaped latchbolt rod support. Rest the latchbolt rod into the U-shaped support. Release the grommet. It should snap into place.

   Note 1: If you can pull the square-shaped tail out of the rod support, the latchbolt is not placed properly. Reposition the latchbolt.

   Note 2: The bevel of the latchbolt must match the bevel of the auxiliary bolt.
5. Reinstall the latch lever, as shown in Figure 6.8.

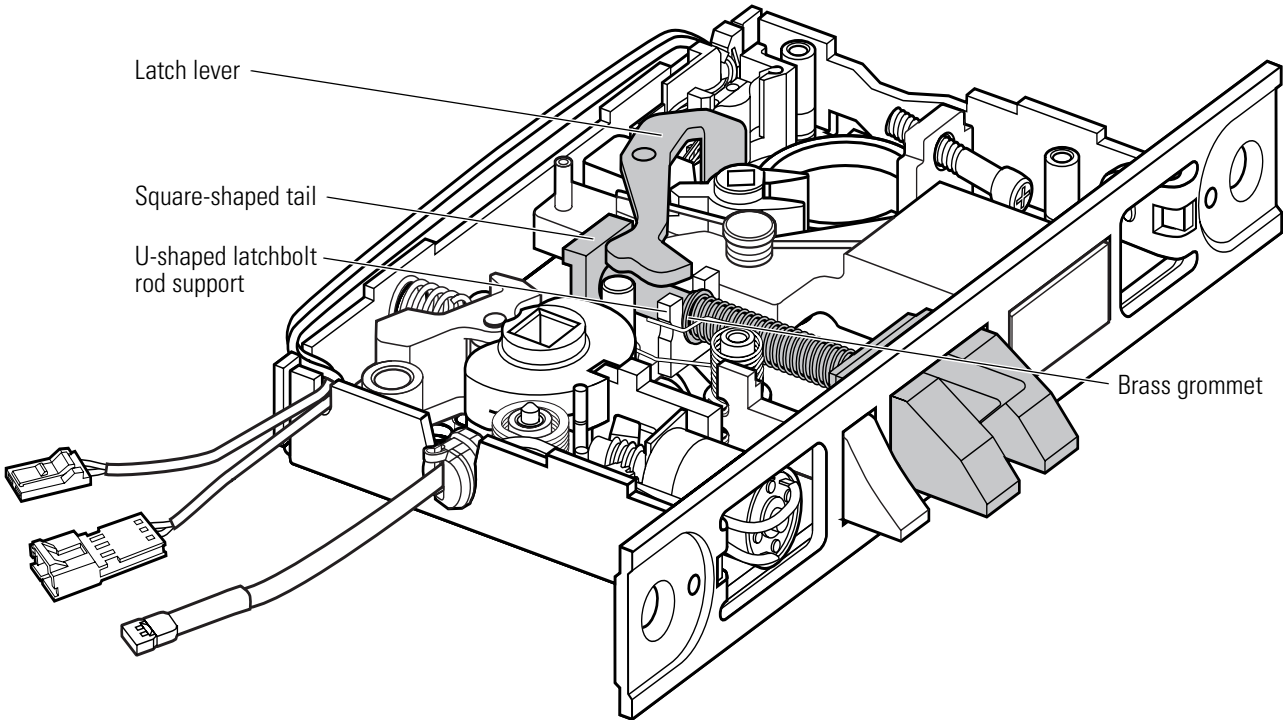


Figure 6.8 Turning over the latchbolt (B.A.S.I.S. FV function, LH case shown)

FUNCTION CONVERSION

The following table describes the Electronic Stand-Alone Mortise Lock functions.

Function	Deadbolt	Key override†
FV	✓	✓
LV	✓	
EV		✓
NV		

†. Key override sensing is standard for B.A.S.I.S. V Mortise Locks and optional for B.A.S.I.S. G Mortise Locks. Keypad EZ Mortise Locks do not have key override sensing.

Removing key override

To remove key override from an Electronic Stand-Alone Mortise Lock, you can convert an FV function lock to an LV function lock or an EV function lock to an NV function lock.

Note: For a description of lock functions, see page 2–2.

Order the outside escutcheon, part number D62505 (for B.A.S.I.S. Locks or D62565 (for Keypad EZ Locks), and perform the tasks below.

1. Remove all of the trim parts from the door, by performing all of the steps for removing parts in each section of Chapter 5. Begin with the levers (page 5–2).
2. Remove the cylinder clamp plate:
   a. Remove and open the mortise case (page 6–2).
   b. Remove the clamp plate from the mortise case (page 6–20).
   c. Close and reinstall the mortise case (page 6–3).
3. Remove all of the parts from the old outside escutcheon, by performing all of the steps for removing parts in each section of Chapter 9. Begin with the escutcheon gasket (page 9–2).
4. Install all of the parts from the old outside escutcheon into the new outside escutcheon, by performing all of the steps for reinstalling parts in each section of Chapter 9. Begin with the reader assembly:
   - magnetic stripe card reader assembly (page 9–23)
   - smart card reader assembly (page 9–12)
   - dual validation reader assembly (page 9–29)
   - proximity reader assembly (page 9–31)
   - keypad reader assembly (page 9–32).
5. Reinstall all of the trim parts onto the door, except for the cylinder and core, by performing all of the steps for reinstalling parts in each section of Chapter 5. Begin with the faceplate (page 5–4).

Adding key override

To add key override, you can convert an LV function lock to an FV function lock or an NV function lock to an EV function lock.

Note: For a description of lock functions, see page 2–2.

For B.A.S.I.S. Locks, order these parts/kits and perform the tasks below:

- outside escutcheon, part number D62506
- core, contact your BEST Representative for details
- cylinder, part number B61341 for 1 3/4″ – 2″ thick doors. See page 2–23 for cylinder part numbers for thicker doors.
- sensor harness kit, part number 1833728 (NV to EV) or 1833760 for the conversion harness
- sensor module kit, part number 1833885 (LV to FV) or 1833927 (NV to EV)
- clamp plate, part number A35257.

For Keypad EZ Locks, order these parts and perform the tasks below:

- outside escutcheon, part number D62571
- core, contact your BEST Representative for details
- cylinder, part number B35173
- clamp plate, part number A35257.

1. Remove all of the trim parts from the door, by performing all of the steps for removing parts in each section of Chapter 5. Begin with the levers (page 5–2).
2. Remove and open the mortise case (page 6–2).
3. *For B.A.S.I.S. LV to FV conversions*, remove the sensor module (page 6–17).
4. Install the following parts in the mortise case:
   - sensor module (page 6–17)
   - clamp plate (page 6–20).
5. Remove all of the parts from the old outside escutcheon, by performing all of the steps for removing parts in each section of Chapter 9. Begin with the escutcheon gasket (page 9–2).
6. Install all of the parts from the old outside escutcheon into the new outside escutcheon, by performing all of the steps for reinstalling parts in each section of Chapter 9. Begin with the reader assembly:
   - magnetic stripe card reader assembly (page 9–23)
   - smart card reader assembly (page 9–26)
   - dual validation reader assembly (page 9–29)
   - proximity reader assembly (page 9–31)
   - keypad reader assembly (page 9–32).
7. Close and reinstall the mortise case (page 6–3).

8. Reinstall all of the trim parts onto the door, including the cylinder and core, by performing all of the steps for reinstalling parts in each section of Chapter 5. For B.A.S.I.S. Locks, begin with the cylinder (page 5–18). For Keypad EZ Locks, begin with the mounting plates (page 5–17).

Adding a deadbolt

To add a deadbolt, you can convert an EV function lock to an FV function lock or an NV function lock to an LV function lock.

Note: For a description of lock functions, see page 2–2.

Order these parts/kits and perform the tasks below:

- inside escutcheon, part number B60768
- faceplate, part number D34095
- sensor harness kit, part number 1833728 (B.A.S.I.S. NV to LV)
- sensor module kit, part number 1833885 (B.A.S.I.S. EV to FV) 1838747 (NV to LV or Keypad EZ EV to FV)
- deadbolt, part number B35035
- turn knob hub assembly (includes hub and spacer), part number A35000.

1. Remove all of the trim parts from the door, by performing all of the steps for removing parts in each section of Chapter 5. Begin with the levers (page 5–2).
2. Remove and open the mortise case (page 6–2).
3. Install the following parts in the mortise case:
   - sensor module (page 6–17)
   - deadbolt (page 6–19)
   - turn knob hub assembly (page 6–19).
4. *For B.A.S.I.S. NV to LV conversions*, install the sensor harness kit in the outside escutcheon.
5. Close and reinstall the mortise case (page 6–3).
6. Reinstall all of the trim parts onto the door, including the new inside escutcheon and faceplate, by performing all of the steps for reinstalling parts in each section of Chapter 5. For B.A.S.I.S. Locks, begin with the cylinder (page 5–18). For Keypad EZ Locks, begin with the mounting plates (page 5–17).

Removing a deadbolt

To remove a deadbolt, you can convert an FV function lock to a EV function lock or an LV function lock to an NV function lock.

Note: For a description of lock functions, see page 2–2.

Order these parts/kits and perform the tasks below:

- inside escutcheon, part number B60778
- sensor module kit, part number 1833927 (B.A.S.I.S. FV to EV)
- faceplate, part number B34515.

1. Remove all of the trim parts from the door, by performing all of the steps for removing parts in each section of Chapter 5. Begin with the levers (page 5–2).
2. Remove and open the mortise case (page 6–2).
3. Remove the following parts in the mortise case:
   - *for B.A.S.I.S. FV to EV conversions*, sensor module (page 6–17)
   - deadbolt (page 6–19)
   - turn knob hub assembly (page 6–18).
4. *For B.A.S.I.S. FV to EV conversions*, install the new sensor module in the mortise case.
5. *For B.A.S.I.S. LV to NV conversions*, remove the sensor harness from the outside escutcheon (page 9–4).
6. Close and reinstall the mortise case (page 6–3).
7. Reinstall all of the trim parts onto the door, including the new inside escutcheon and faceplate, by performing all of the steps for reinstalling parts in each section of Chapter 5. *For B.A.S.I.S. Locks*, begin with the cylinder (page 5–18). *For Keypad EZ Locks*, begin with the mounting plates.

SERVICING PARTS IN THE MORTISE CASE

Servicing the motor module

Caution

Use extreme caution and wear safety glasses or goggles when performing the steps below. Point the case away from you while removing and reinstalling the upper auxiliary spring. The spring may unexpectedly pop out and could injure you.

Removing the motor module

1. Remove and open the mortise case (page 6–2).
2. Rotate the locking bar and motor module. Remove the locking bar from the case. See Figure 6.9.
3. Use a pair of needle-nosed pliers to carefully remove the upper auxiliary spring from the case.
4. Remove the wire strain relief and motor module from the case.
5. Open the wire strain relief and remove the wires.

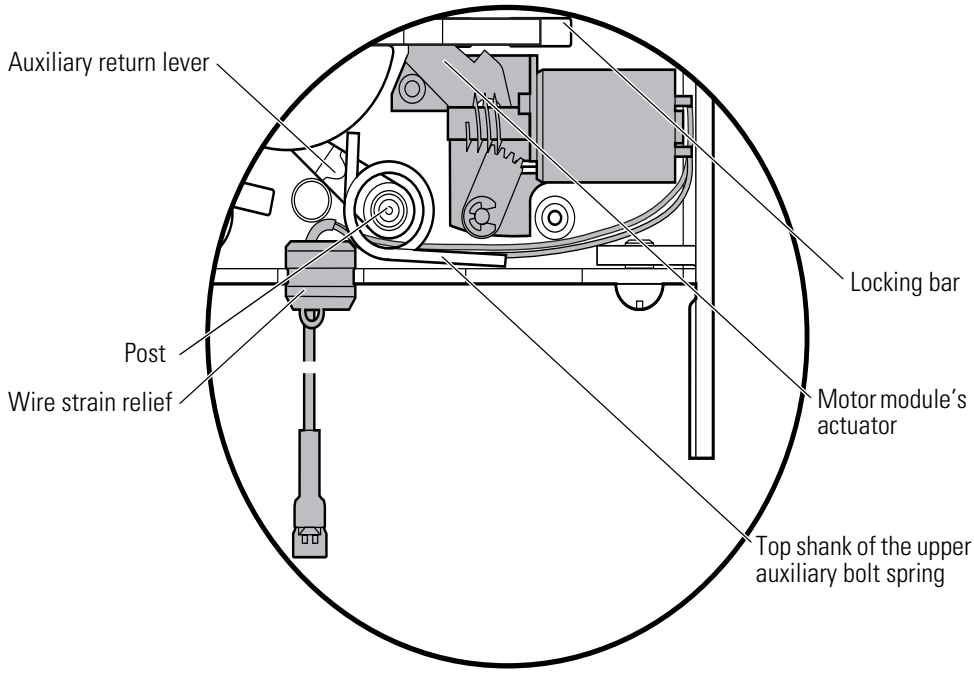


Figure 6.9 Removing and reinstalling the motor module

Reinstalling the motor module

1. Insert the motor module's actuator into the opening in the locking bar. Rotate the components into place. The motor module locks into place in the case. The locking bar fits into the slot on the outside hub. The two feet on the bottom of the locking bar fit into the bottom of the case.
2. Place the strain relief on the notch in the case.
3. Route the motor module's wires behind the post, above the lower auxiliary spring, and out through the strain relief.

   Note: Make sure the wires are not pulled so tightly that there is strain on the connection to the motor, and the wires are not pulled so loosely that they will interfere with the operation of the auxiliary springs.

4. Clamp the sheathed motor wires in the strain relief. Slide the strain relief into position on the case. It should lock into place.
5. Install the upper auxiliary spring on the post so the short shank rests against the auxiliary return lever.
6. While holding the coil of the upper auxiliary spring on the post, use a pair of needle-nosed pliers to pull the top shank of the spring around to rest against the inside of the case. The shank should be parallel to the top of the case.

   Note: Make sure that the upper auxiliary spring does not separate and ride onto the top of the post.

7. Close and reinstall the mortise case (page 6–3).

Servicing the sensor module

Replacement kits are available for the sensor module. See page 4–10.

Removing the sensor module

1. Remove and open the mortise case (page 6–2).
2. Remove the latch lever.
3. Remove the sensor module.

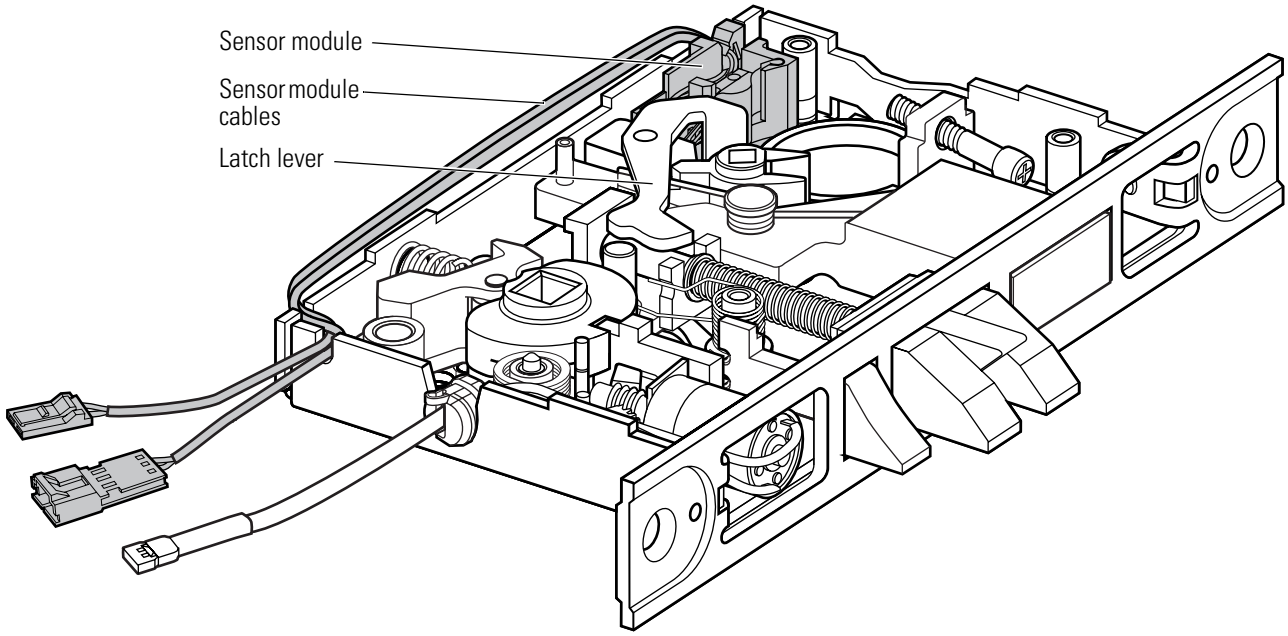


Figure 6.10 Removing and reinstalling the sensor module (B.A.S.I.S. FV function, LH case shown)

Reinstalling the sensor module

1. Position the sensor module in the case and route the cable(s) as shown in Figure 6.10.
2. Reinstall the latch lever.
3. Close and reinstall the mortise case (page 6–3).

Servicing the deadbolt, turn knob hub, and spacer

Removing the deadbolt, turn knob hub, and spacer

1. Remove and open the mortise case (page 6–2).
2. Remove the latch lever. See Figure 6.10.
3. Pull the deadbolt spring away from the turn knob hub and remove the turn knob hub from the case. See Figure 6.11.
4. Grasp the deadbolt by the post and remove the deadbolt from the case.
5. Remove the turn knob hub spacer from the case.

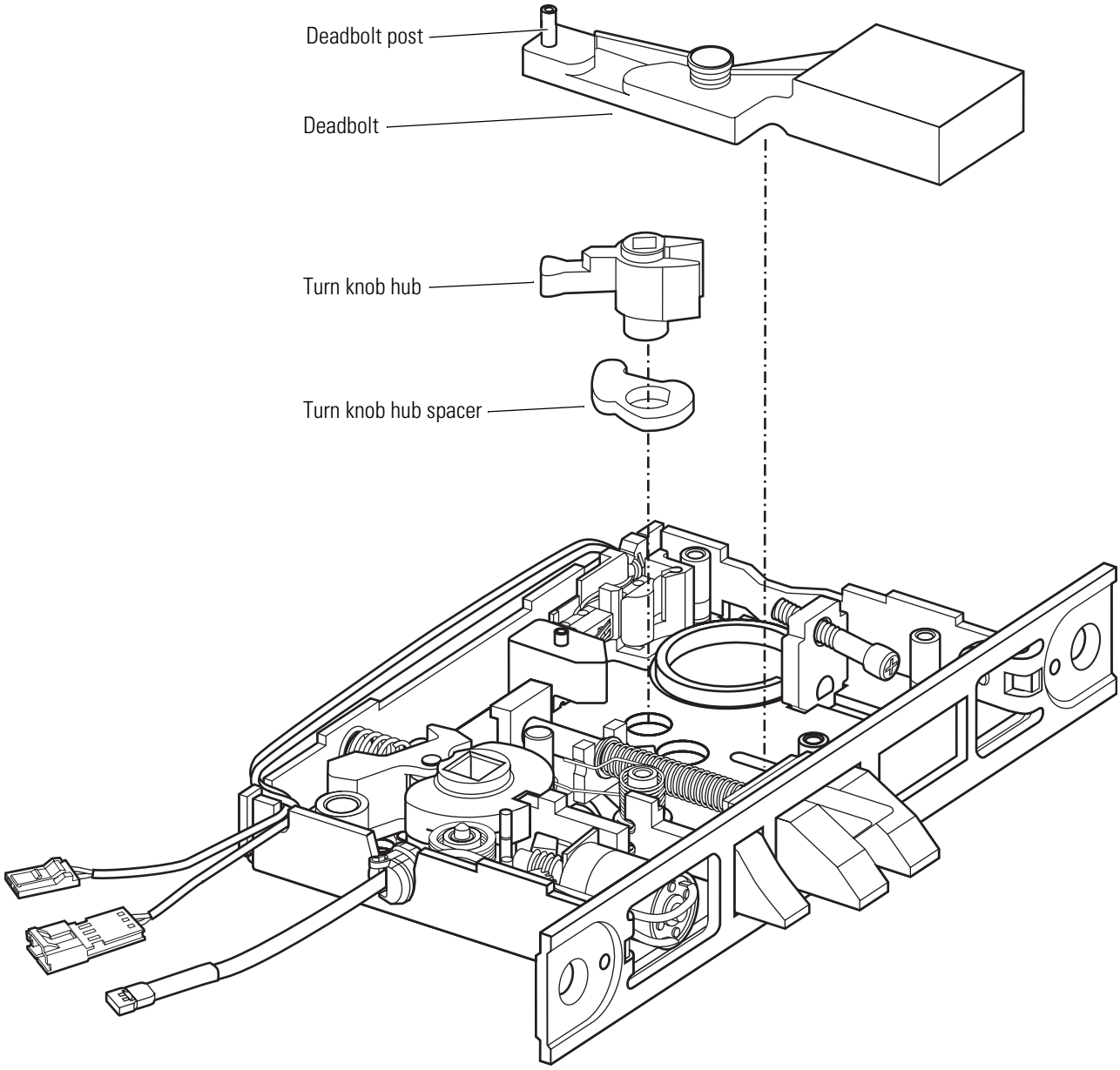


Figure 6.11 Removing the deadbolt, turn knob hub, and spacer (B.A.S.I.S. FV function, LH case shown)

Reinstalling the deadbolt, turn knob hub, and spacer

1. Position the turn knob hub spacer so that the tail fits under the case support. See Figure 6.12.
2. Insert the deadbolt into the case, spring side up, so the bolt fits through the opening in the armored front.
3. Insert the turn knob hub into the turn knob hub spacer so that the tail of the turn knob hub is positioned against the deadbolt, as shown in Figure 6.12.
4. Position the spring on the deadbolt against the turn knob hub, as shown in Figure 6.12.
5. Reinstall the latch lever.
6. Close and reinstall the mortise case (page 6–3).

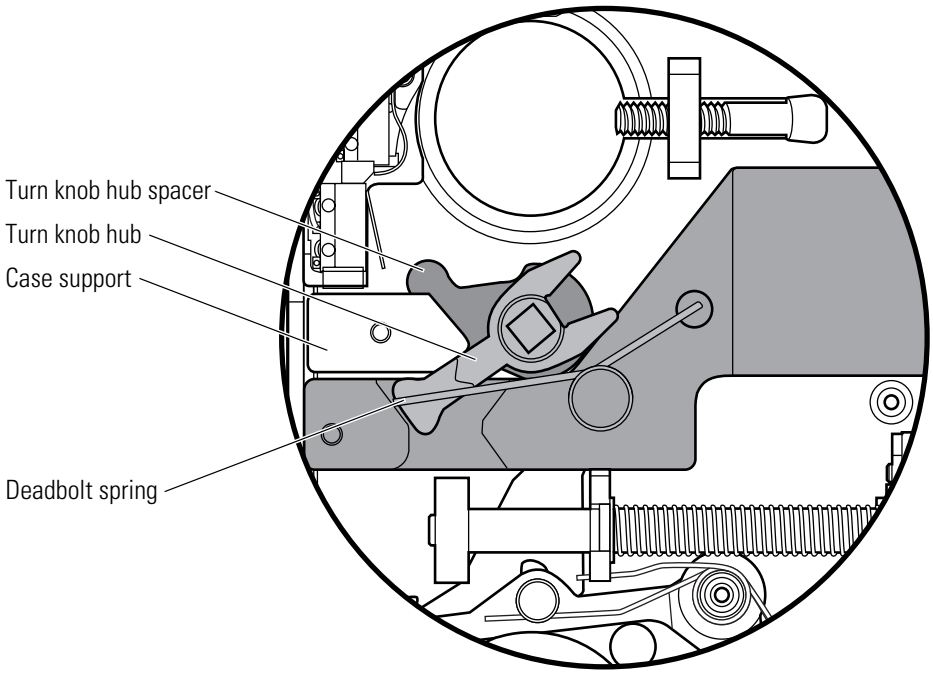


Figure 6.12 Positioning the turn knob hub and deadbolt spring

Servicing the cylinder clamp plate

Removing the cylinder clamp plate

1. Remove and open the mortise case (page 6–2).
2. Remove the cylinder clamp plate from the case.

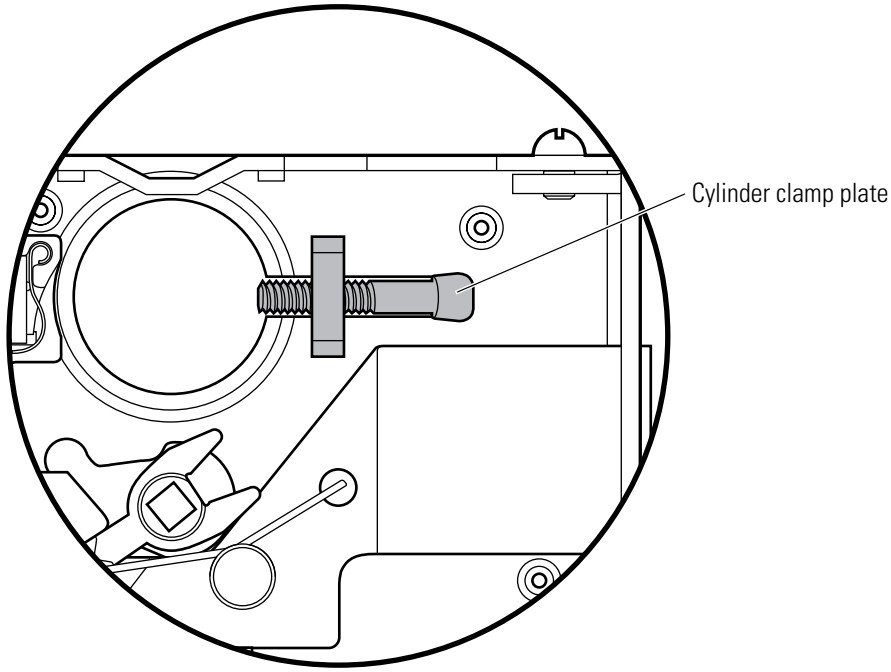


Figure 6.13 Removing and reinstalling the cylinder clamp plate

Reinstalling the cylinder clamp plate

1. Insert the cylinder clamp plate into the case so the screw is on the same side of the case as the concealed cylinder.
2. Close and reinstall the mortise case (page 6–3).

7 SERVICING CYLINDRICAL PARTS

This chapter contains instructions for replacing Electronic Stand-Alone Cylindrical Lock parts.

- To remove all of the trim parts from the door, perform all of the steps for removing parts in each section of this chapter. Begin with the core and throw member (page 7–2).
- To reinstall all of the trim parts onto the door, perform all of the steps for reinstalling parts in each section of this chapter. Begin with the rose liners (page 7–17).
- To service an individual part, see the section for that part. The instructions refer to other sections as necessary.

If you need to service…	See…
Core and throw member	page 7–2
Levers	page 7–3
Inside and outside escutcheons	page 7–5
Rose liners	page 7–16
Cylindrical chassis	page 7–19

Note: When replacing parts, always test that the lock works properly when you're finished.

SERVICING THE CORE AND THROW MEMBER

Note: *To service a core and throw member from a manufacturer other than BEST with an Electronic Stand-Alone Cylindrical Lock, see the* Installation Instructions for 9K Non-interchangeable Cores & Throw Members *(T56093).*

Removing the core and throw member

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core and throw member from the lever.

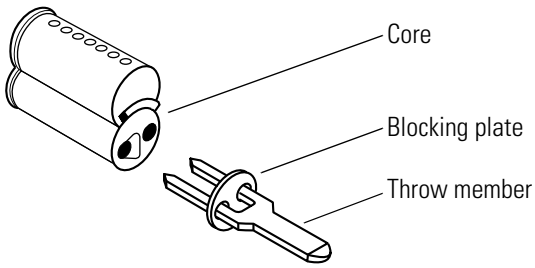


Figure 7.1 Removing the core and throw member

Reinstalling the core and throw member

1. Install the blocking plate onto the throw member.

You must use the blocking plate to prevent unauthorized access.

Caution

2. Insert the control key into the core and rotate the key 15 degrees to the right.
3. Insert the throw member into the core.
4. Insert the core and throw member into the lever with the control key.
5. Rotate the control key 15 degrees to the left and withdraw the key.

The control key can be used to remove cores and to access doors. Provide adequate security for the control key.

Caution

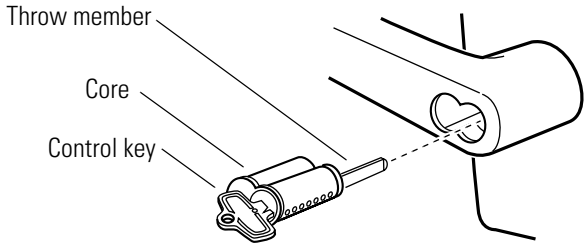


Figure 7.2 Reinstalling the core and throw member

SERVICING THE LEVERS

Removing the levers

Removing the keyed lever

1. Remove the core and throw member (page 7–2).
2. Insert a flat blade screwdriver into the figure-8 core hole and into the lever/knob keeper.
3. Press the screwdriver blade in the direction of the arrow shown in Figure 7.3.

   Note: You will not be able to remove the lever if the screwdriver blade is inserted too far past the keeper.
4. Slide the lever off of the sleeve.

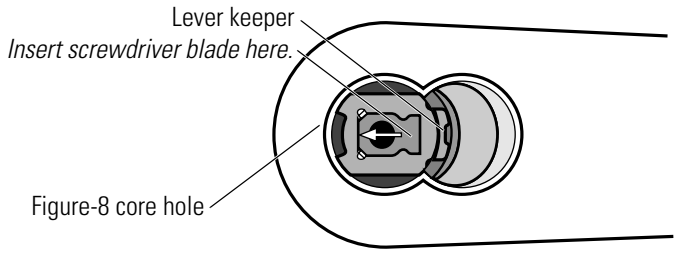


Figure 7.3 Removing the keyed lever

Removing the plain lever

Insert the protrusion on the spanner wrench into the hole on the shaft of the lever, as shown in Figure 7.4. Slide the lever off of the sleeve.

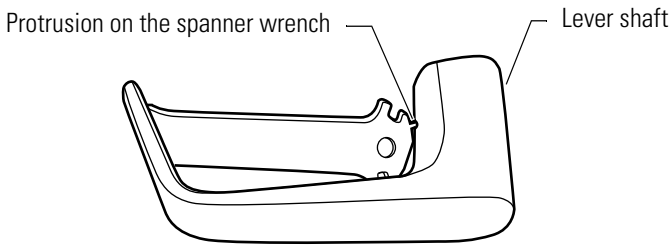


Figure 7.4 Removing the plain lever

Reinstalling the levers

1. With the handle pointing toward the door hinges, position a lever on the outside sleeve and push firmly on the lever until it is seated. Repeat, placing the other lever on the inside sleeve.
2. Tighten the escutcheon mounting screws.
3. Turn the levers to check that they operate smoothly.
4. Reinstall the core and throw member (page 7–2).

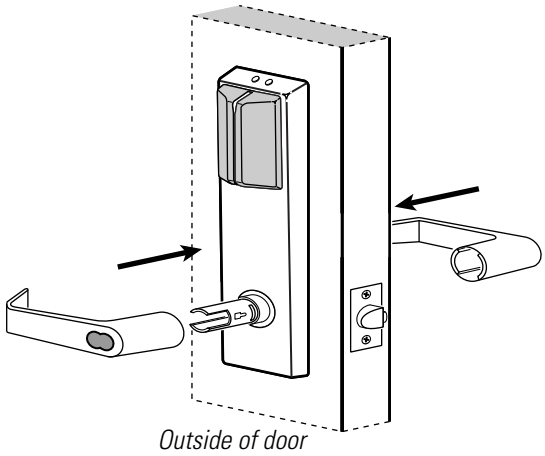


Figure 7.5 Reinstalling the levers (B.A.S.I.S. Lock shown)

SERVICING THE INSIDE AND OUTSIDE ESCUTCHEONS

Removing the inside and outside escutcheons

1. Remove the following parts:
   - core and throw member (page 7–2)
   - levers (page 7–3).
2. Remove the battery door.
   a. Use a T15 TORX bit driver to remove the security screw from the battery door.
   b. Open the access door and remove it from the escutcheon.

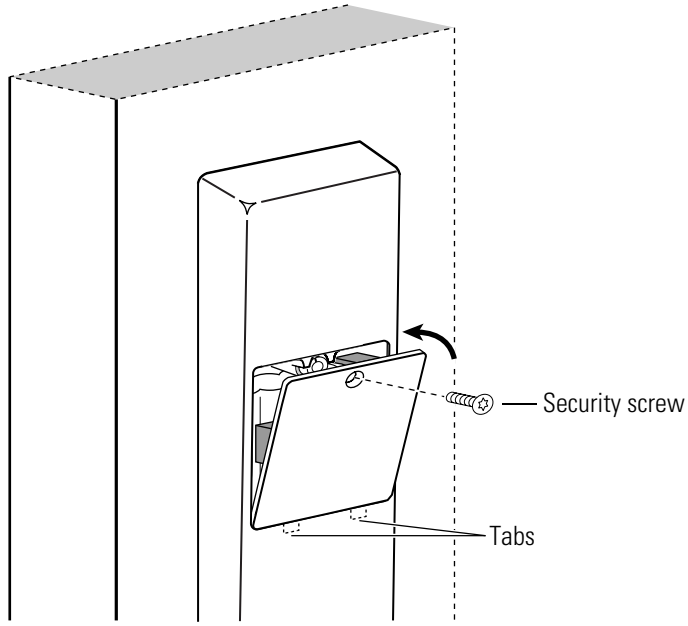


Figure 7.6 Removing the battery door (four-cell door shown)

3. Remove the battery pack.
   a. Remove the battery pack from the battery compartment.
   b. Disconnect the battery pack from the battery connector on the wire harness.

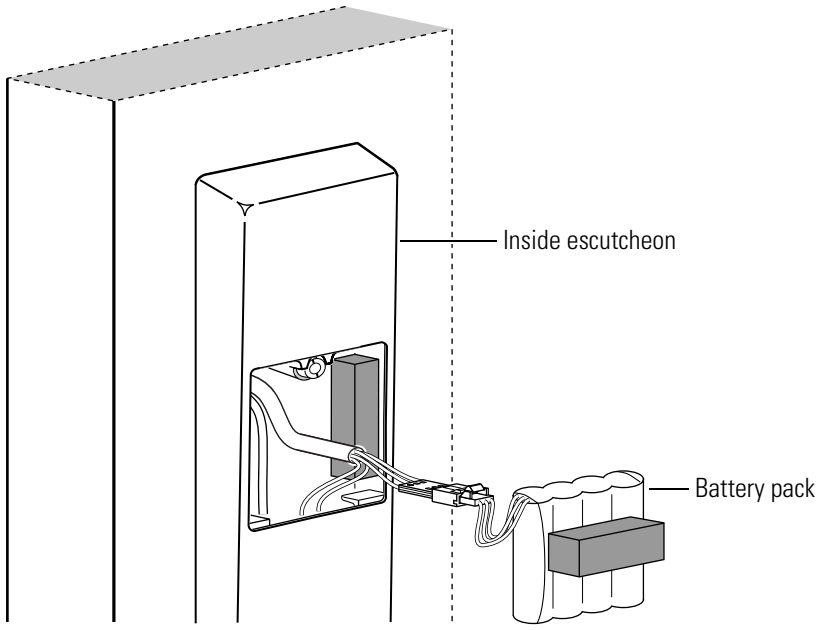


Figure 7.7 Removing the battery pack (four-cell pack shown)

4. Remove the escutcheons.
   a. Remove the upper escutcheon screw and lower escutcheon screw from the inside escutcheon.

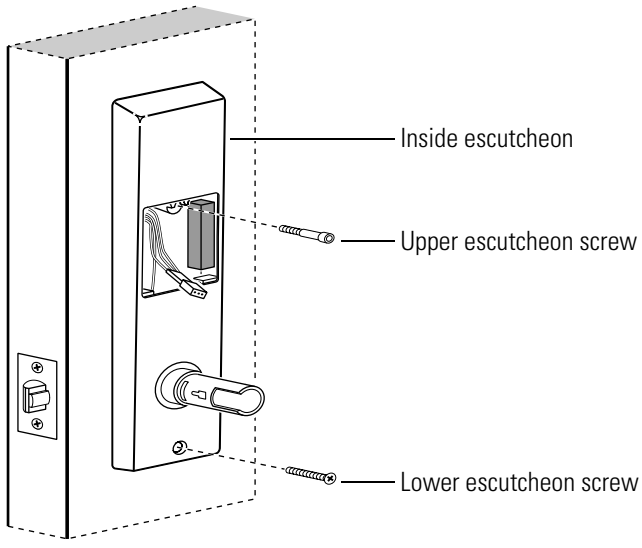


Figure 7.8 Removing the escutcheon

b. Remove the inside escutcheon from the door.

Caution

Do not dangle the Keypad EZ inside escutcheon by the grounding cable.

c. *For Keypad EZ Locks*, remove the screw connecting the grounding cable terminal to the inside escutcheon. Save the screw.

d. From the inside of the door, disconnect the motor connector on the chassis from its mating connector on the wire harness.

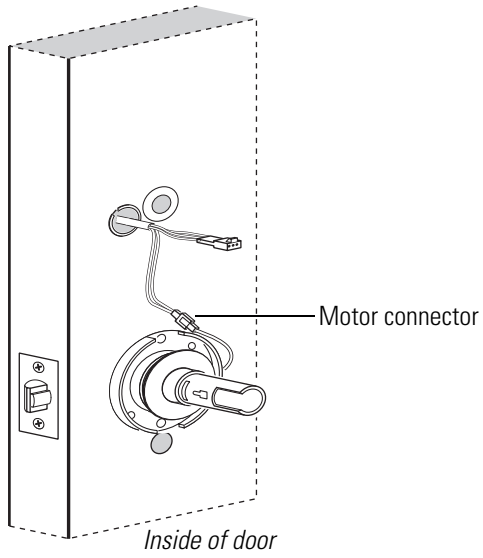


Figure 7.9 Disconnecting the motor connector (B.A.S.I.S. Lock shown)

e. *For Keypad EZ Locks wired to a remote unlock device*, disconnect the remote unlock connection.

f. Remove the bushings, trim hole inserts, and hub washers from each side of the door.

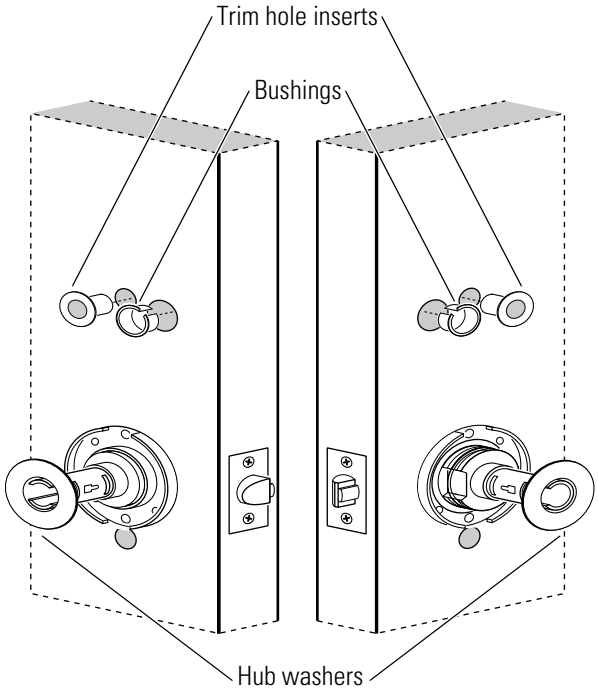


Figure 7.10 Removing the bushings, trim hole inserts, and hub washers (B.A.S.I.S. Lock shown)

g. Remove the outside escutcheon from the door, feeding the motor connector out the harness hole.

Caution

When removing the outside escutcheon, make sure that the harnesses are not rubbed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

Reinstalling the inside and outside escutcheons

1. *If you are installing a new B.A.S.I.S. outside escutcheon*:
   a. Locate the backup battery tab on the inside of the outside escutcheon.
   b. Pull down on the tab and remove it from the outside escutcheon to turn on the backup battery.

Caution

For the lock to operate properly, you must remove the backup battery tab.

Caution

Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.

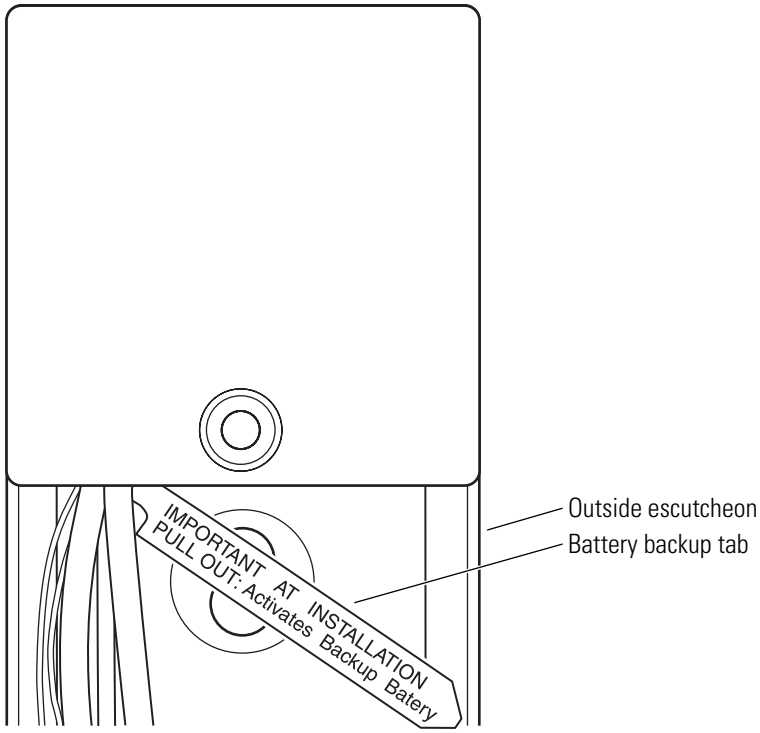


Figure 7.11 Locating the backup battery tab for B.A.S.I.S. Locks

2. Install the trim hole inserts, bushings, and hub washers:
   a. Insert the two trim hole inserts into the upper trim hole on each side of the door.
   b. Insert the two bushings into the harness hole on each side of the door.
   c. On each side of the door, slide a hub washer over the chassis sleeve so it rests on the hub.

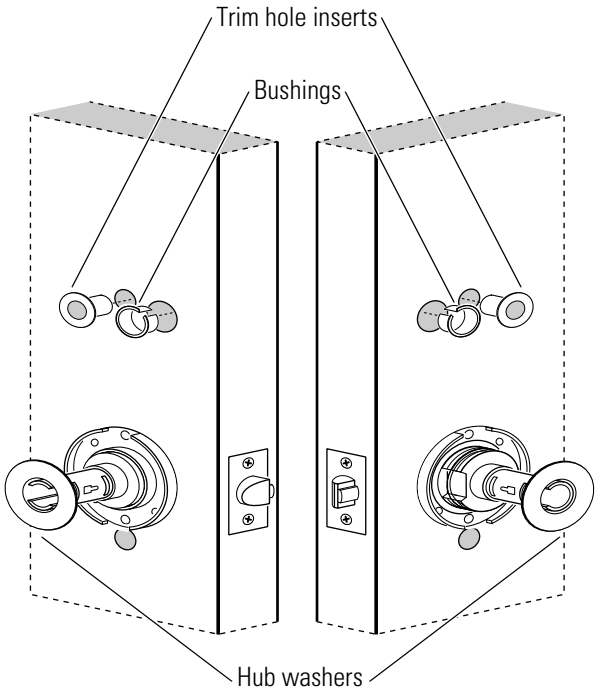


Figure 7.12 Reinstalling the bushings, trim hole inserts, and hub washers (B.A.S.I.S. Lock shown)

3. From the outside of the door, feed the motor connector, battery connector, and remote unlock wires (Keypad EZ Locks) through the harness hole.

Caution

When routing the connectors, make sure the wire harness is not routed across any sharp edges or over any surface that could damage its sleeving or wire insulation.

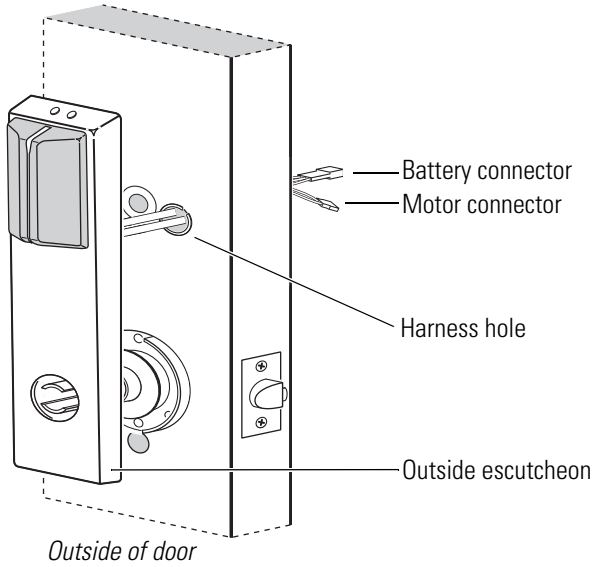


Figure 7.13 Feeding the wire harness connectors through the harness hole (B.A.S.I.S. Lock shown)

4. Temporarily rest the outside escutcheon on the door by inserting the trim studs into the trim holes.

   Note: You can temporarily install the outside lever to hold the outside escutcheon in place. See *Reinstalling the levers* (page 7–4).

5. From the inside of the door, connect the motor connector from the chassis to its mating connector on the wire harness.

Wire connection	Colors	No. of wires	No. of pins
Motor	Yellow	2	2
	Gray	–	–
Remote Unlock	Brown	–	–

Caution

When connecting the motor connector, make sure:

- *there are no loose wire connections where the wires are inserted into the connectors*
- *the connectors are firmly mated.*

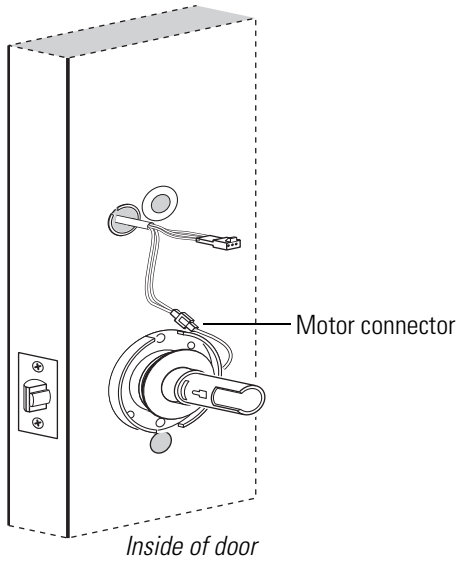


Figure 7.14 Connecting the motor connector

6. *For Keypad EZ Locks to be wired to a remote unlock device*, make the remote unlock connections with wire nuts or crimp connectors.
7. *For Keypad EZ Locks*, connect the grounding cable to the inside escutcheon as shown in Figure 7.15.

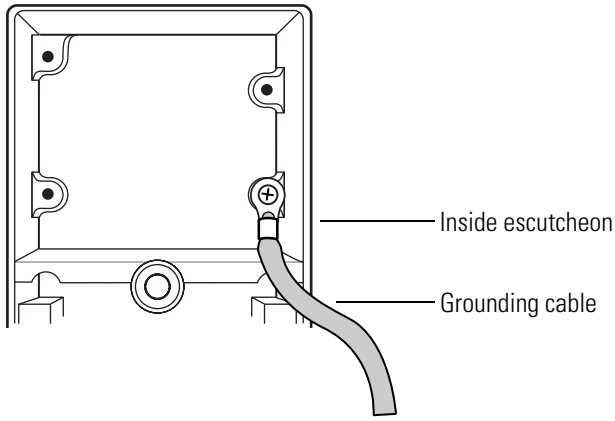


Figure 7.15 Connecting the grounding cable for Keypad EZ Locks

8. Secure the escutcheons:
   a. Position the inside and outside escutcheons on the door.
   b. Making sure that the escutcheons do not pinch the wires, secure the escutcheons to the door—but do not tighten. Use the upper mounting screw at the upper trim hole and the lower mounting screw at the lower trim hole.

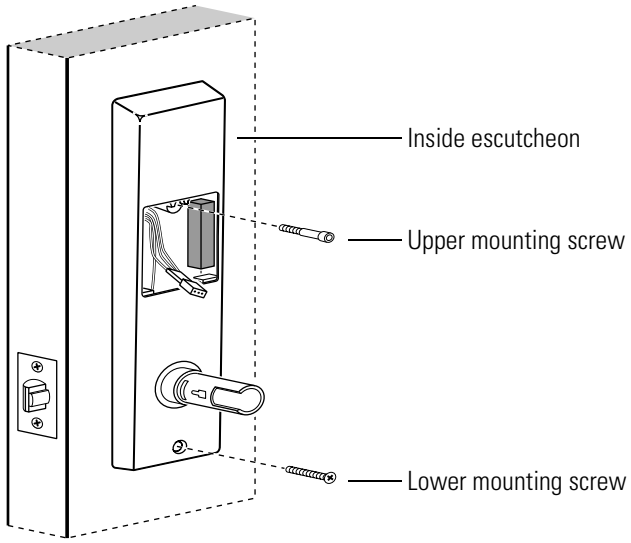


Figure 7.16 Securing the escutcheons

9. Reinstall the battery pack:
   a. Connect the battery pack to the battery connector on the wire harness inside the battery compartment.

      Note: The battery connection has 3 wires and 3 pins. The wire colors are:

      - red with white stripe
      - white
      - black with white stripe.

Caution

When connecting the battery pack, make sure:

- *there are no loose wire connections where the wires are inserted into the connectors*
- *the connectors are firmly mated.*

   b. Place the battery pack inside the battery compartment.

      Note: For the four-cell battery pack, position the battery so that the foam will face the battery door.

Caution

When routing the battery wires, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

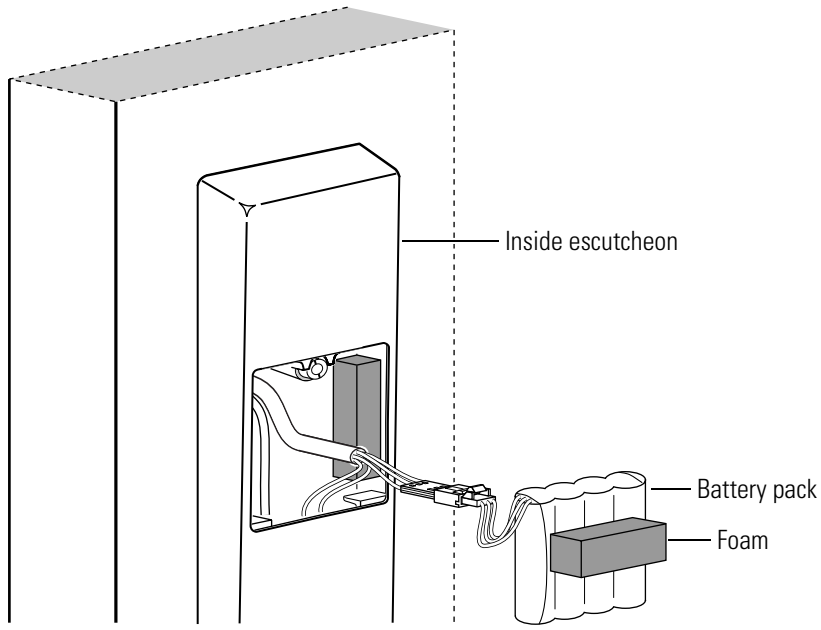


Figure 7.17 Reinstalling the battery pack (four-cell pack shown)

10. Reinstall the battery door:
    a. Making sure that the battery door does not pinch any wires, insert the tabs of the battery door into its mating slots and swing the door closed.
    b. Use a T15 TORX bit driver to secure the battery door with the security screw. Tighten firmly.

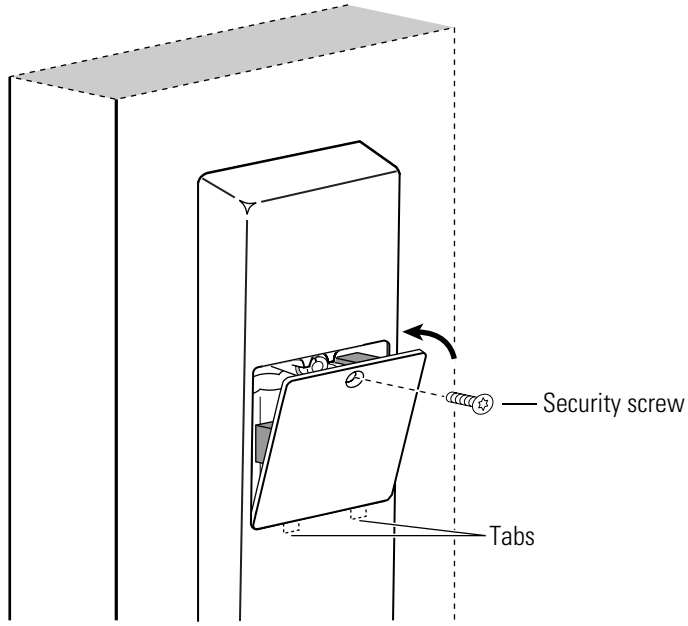


Figure 7.18 Reinstalling the battery door (four-cell door shown)

11. Reinstall the following parts:
    - levers (page 7–4)
    - core and throw member (page 7–2).

SERVICING THE ROSE LINERS

Removing the rose liners

1. Remove the following parts:
   - core and throw member (page 7–2)
   - levers (page 7–3)
   - escutcheons (page 7–5).
2. Remove the through-bolts from the top and bottom holes in the rose liner. *For Keypad EZ Locks*, save the grounding cable.
3. Slide the inside rose liner off of the door.

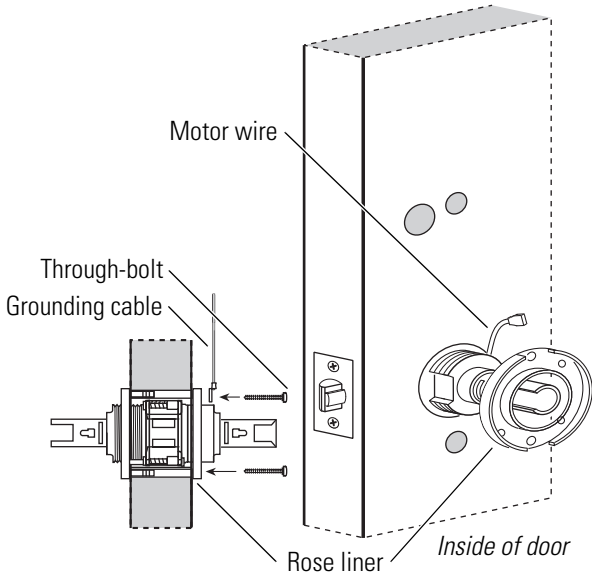


Figure 7.19 Removing the inside rose liner (Keypad EZ Lock shown)

4. Slide the chassis assembly out of the door.
5. Retract the rose locking pin, and rotate the outside rose liner until it is free from the hub.
6. Remove the rose and liner assembly from the sleeve.

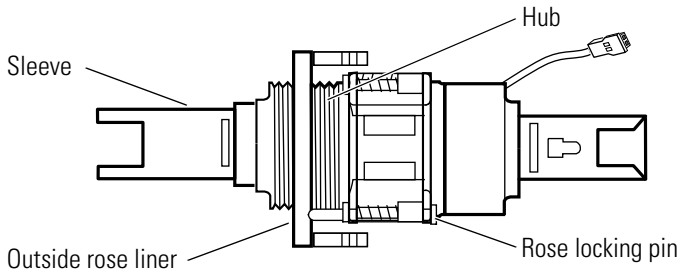


Figure 7.20 Removing the outside rose liner

Reinstalling the rose liners

1. Retract the rose locking pin, and rotate the outside rose liner clockwise until the proper door thickness groove on the through-bolt stud lines up with the hub face.

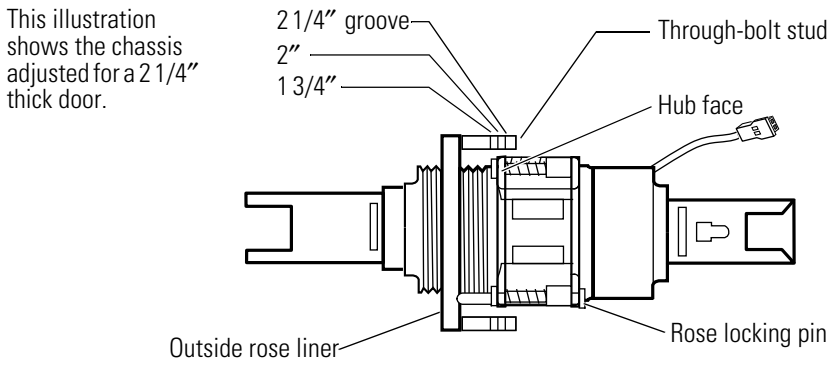


Figure 7.21 Reinstalling the outside rose liner

2. Release the rose locking pin. It should lock into the rose liner.

   Note: Make sure that the locking pin fully locks into the rose liner.

3. From the outside of the door, insert the lock chassis into the 2 1/8″ chassis hole, routing the motor wire through the notch.

Caution

Make sure that the latch tube prongs engage the chassis frame and that the latch tailpiece engages the retractor.

4. Place the inside rose liner on the chassis, aligning the holes in the rose liner with the holes prepared in the door.

Caution

Make sure that there is clearance for the motor wire between the rose liner and the door.

5. *For Keypad EZ Locks*, insert the top through-bolt through the large terminal on the grounding cable.
6. Install the through-bolts through the rose liner and door in the top and bottom holes, securing the grounding cable with the top through-bolt (Keypad EZ Locks).

7. Tighten the rose liner on the door with the through-bolts, securing the grounding cable against the rose liner (Keypad EZ Locks).

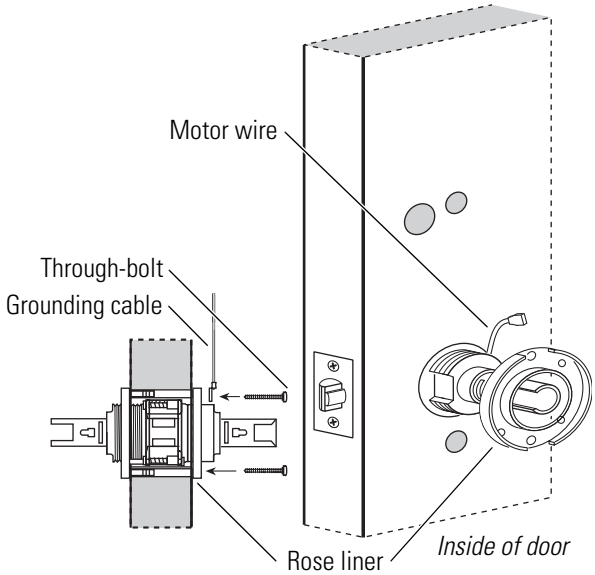


Figure 7.22 Reinstalling the inside rose liner (Keypad EZ shown)

8. Reinstall the following parts:
   - escutcheons (page 7-9)
   - levers (page 7-4)
   - core and throw member (page 7-2).

SERVICING THE CYLINDRICAL CHASSIS

Because of the complex nature of servicing the individual components of the cylindrical chassis, BEST recommends that you order a new cylindrical chassis. Contact your BEST Representative.

Use the following part numbers when ordering a new cylindrical chassis.

Chassis type	Part no.
Chassis	D60464
Chassis for use with non-BEST cores	D60332
Free motion chassis	D56025

Removing the cylindrical chassis

1. Remove the following parts:
   - core and throw member (page 7–2)
   - levers (page 7–3)
   - escutcheons (page 7–5)
   - rose liners (page 7–16).

Reinstalling the cylindrical chassis

2. Reinstall the following parts:
   - rose liners (page 7–17)
   - escutcheons (page 7–9)
   - levers (page 7–4)
   - core and throw member (page 7–2).

8 SERVICING EXIT HARDWARE TRIM PARTS

This chapter contains instructions for servicing Electronic Stand-Alone Exit Hardware Trim parts.

- To remove all of the trim parts from the door, perform all of the steps for removing parts in each section of this chapter. Begin with the battery cover (page 8–2).
- To reinstall all of the trim parts onto the door, perform all of the steps for reinstalling parts in each section of this chapter. Begin with the Electronic Stand-Alone escutcheon (page 8–14).
- To service an individual part, see the section for that part. The instructions refer to other sections as necessary.

If you need to service…	See…
Battery cover	page 8–2
Battery pack	page 8–4
Battery bracket	page 8–6
Exit hardware	page 8–8
Core (for EV function only)	page 8–9
Cylinder (for EV function only)	page 8–10
Escutcheon	page 8–13

Note: When servicing parts, always test that the lock works properly when you're finished.

SERVICING THE BATTERY COVER

Removing the battery cover

1. Use a T15 TORX driver to remove the security screws from the battery cover.
2. Remove the battery cover from the battery bracket.

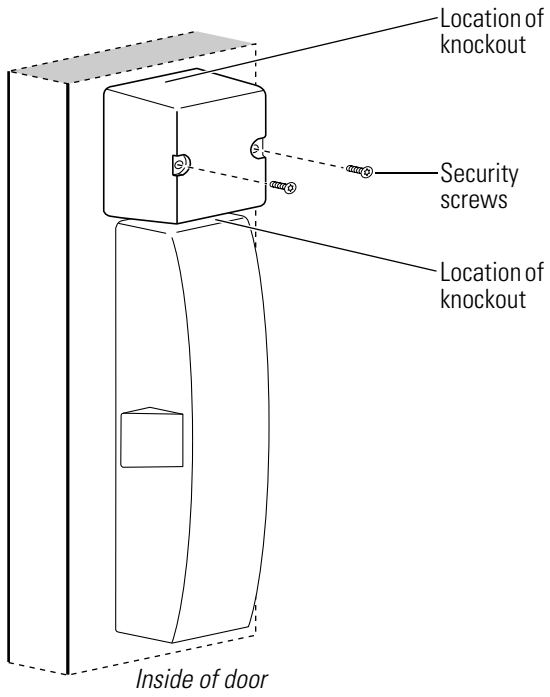


Figure 8.1 Removing and reinstalling the battery cover on the battery bracket

Reinstalling the battery cover

1. *If installing a new battery cover with a surface rod exit device*, remove the knockouts for the rod from the battery cover. See Figure 8.1.
2. Making sure that the battery cover does not pinch any wires, place the cover over the bracket.
3. Use a T15 TORX bit driver to secure the battery compartment cover with the security screws. Tighten firmly. See Figure 8.1.

SERVICING THE BATTERY PACK

Removing the battery pack

1. Remove the battery cover. See page 8–2.
2. Remove the battery pack from the holder inside the battery bracket.

   Note: You might need to cut a cable tie if one was used to dress the wire harness inside the battery bracket.

3. Disconnect the battery pack from the battery connector on the wire harness.

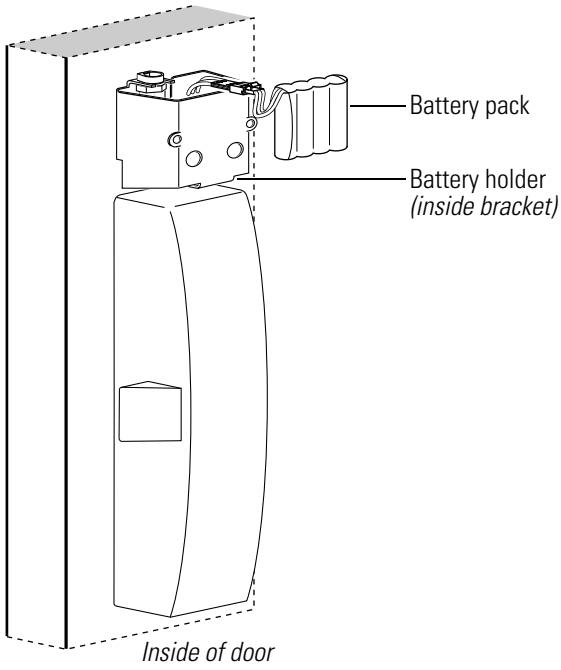


Figure 8.2 Removing and reinstalling the battery pack (B.A.S.I.S.Exit Hardware Trim shown)

Reinstalling the battery pack

Note: Replacement battery packs are shipped with foam attached, but foam is not needed for Electronic Stand-Alone Exit Hardware Trim. Remove and discard the foam before installing the battery pack.

1. Connect the battery pack to the battery connector on the wire harness shown in Figure 8.2.

   Note: The battery connector has 3 wires and 3 pins. The wire colors are:

   - red with white stripe
   - white
   - black with white stripe.

Caution

When connecting the battery pack, make sure there are no loose wire connections where the wires are inserted into the connectors and the connectors are firmly mated.

2. Place the battery pack in the holder inside the battery bracket and dress the wire harness inside the bracket.

Caution

Make sure you do not damage the sleeving on the battery pack. Doing so may cause the batteries to be drained.

3. *If reinstalling with a surface rod device*, dress the wire harness inside the bracket to the left of the rod so that the harness will not interfere with the movement of the rods.

   We recommend that you loosely coil the harness and use a cable tie to secure the coil. To avoid damaging the harness, do not put any sharp bends in it or flex it close to the connectors.

Caution

Failure to dress the wire harness away from the rod could damage the wire harness, causing the lock's electronics to not work properly.

4. Reinstall the battery cover. See page 8–3.

SERVICING THE BATTERY BRACKET

Removing the battery bracket

1. Remove the following parts:
   - battery cover (page 8–2)
   - battery pack (page 8–4).
2. Remove the two battery bracket mounting screws. See Figure 8.3.
3. *For B.A.S.I.S. EX Series Exit Hardware Trim*, loosen the nut securing the com port to the bracket and slide the com port out of the bracket. See Figure 8.4.

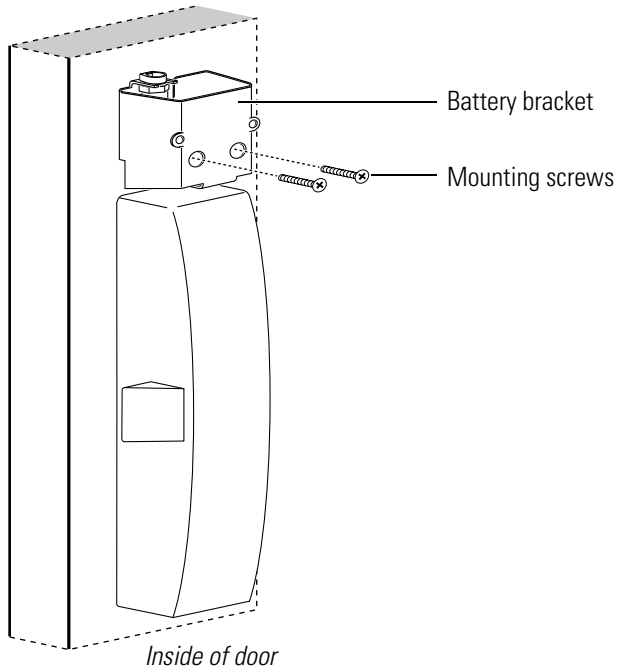


Figure 8.3 Removing and reinstalling the battery bracket on the door (B.A.S.I.S. EX Series Exit Hardware Trim shown)

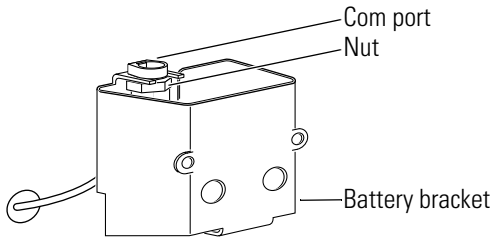


Figure 8.4 Removing and reinstalling the com port in the battery bracket for B.A.S.I.S. EX Series Exit Hardware Trim

Reinstalling the battery bracket

1. *For B.A.S.I.S. EX Series Exit Hardware Trim*, route the wire harness into the bottom of the battery bracket and slide the com port into its mounting slot inside the battery bracket as shown in Figure 8.4.

   Note: The com port is used when programming the control electronics for a B.A.S.I.S. Lock.

2. *For B.A.S.I.S. EX Series Exit Hardware Trim*, tighten the nut to secure the com port to the bracket.
3. Position the battery bracket on the inside of the door as shown in Figure 8.3.

   Note: *If reinstalling with a surface rod exit device*, the battery bracket is mounted over the upper rod.

4. Secure the battery bracket to the door using the two mounting screws.

   Note: Doors less than 2″ in thickness use 1 1/4″ screws. Doors 2″ or greater use 1 3/4″ screws.

Caution

When routing the wire harness, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

5. Reinstall the following parts:
   - battery pack (page 8–5)
   - battery cover (page 8–3).

SERVICING THE EXIT HARDWARE

Removing the exit hardware

1. Remove the following parts:
   - battery cover (page 8–2)
   - battery pack (page 8–4)
   - battery bracket (page 8–6).
2. Remove the exit hardware (lock stile case, case cover, touch bar assembly, and related hardware); follow the instructions provided by the exit hardware manufacturer.

   Note: The Electronic Stand-Alone escutcheon is secured on the outside of the door by the screws used to mount the lock stile case on the inside of the door.

Reinstalling the exit hardware

1. Reinstall the exit hardware (lock stile case, case cover, touch bar assembly, and related hardware); follow the instructions provided by the exit hardware manufacturer.

   Note: Make any adjustments to the exit hardware necessary for compatibility with lever function outside trim.

Caution

When securing the Electronic Stand-Alone escutcheon, make sure that it does not pinch the wire harness.

2. Reinstall the following parts:
   - battery bracket (page 8–7)
   - battery pack (page 8–5)
   - battery cover (page 8–3).

SERVICING THE CORE

Perform these steps for EV function locks only.

Note: For a description of lock functions, see page 3–2.

Removing the core

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core from the cylinder.

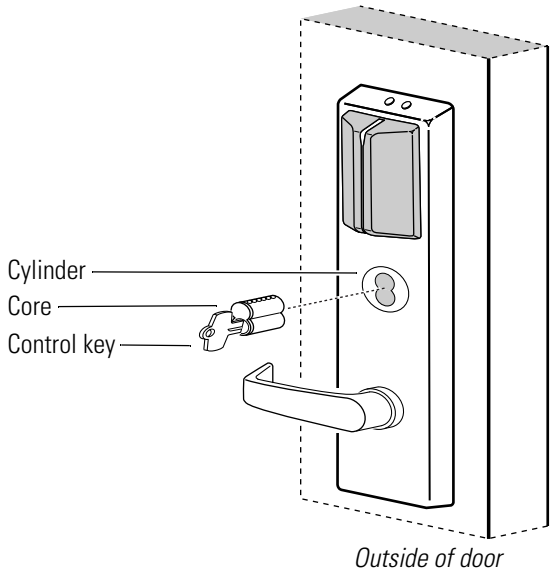


Figure 8.5 Removing and reinstalling the core (B.A.S.I.S. escutcheon shown)

Reinstalling the core

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. With the control key in the core, insert the core into the cylinder as shown in Figure 8.5.
3. Rotate the control key 15 degrees to the left and withdraw the key.

Caution

The control key can be used to remove cores and to access doors. Provide adequate security for the control key.

SERVICING THE CYLINDER

Perform these steps for EV function locks only.

Note: For a description of lock functions, see page 3–2.

Removing the mortise cylinder

1. Remove the core. See page 8–9.
2. Insert a cylinder wrench (ED211) into the cylinder and unscrew the cylinder from the mortise case.
3. Slide the cylinder and cylinder ring (if present) out of the door and escutcheon.

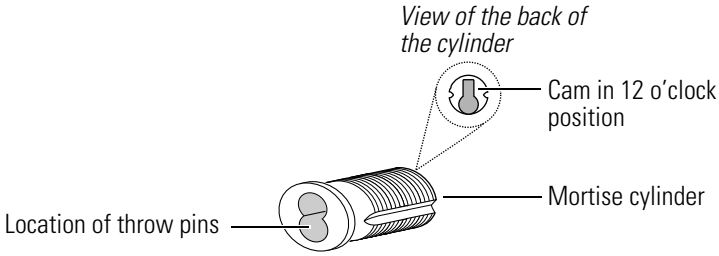


Figure 8.6 Mortise cylinder components

Reinstalling the mortise cylinder

1. *For doors less than 2″ in thickness*, place the cylinder ring provided on the cylinder.
2. Rotate the cylinder cam to the 12 o'clock position, as shown in Figure 8.6.
3. Using a cylinder wrench (ED211), insert the cylinder through the cylinder opening in the B.A.S.I.S. escutcheon and screw the cylinder into the mortise case. Make sure that the cylinder is oriented as shown in Figure 8.6.

Caution

Do not screw the cylinder in too tightly. Doing so may cause you or someone else to be locked out.

4. Reinstall the core. See page 8–9.

Removing the rim cylinder for Precision Hardware installations

Note: *The rim cylinder is used in rim and rod exit device installations.*

1. *If replacing the cylinder*, remove the core (page 8–9).
2. Remove the exit hardware as necessary to access the cylinder clamp plate and mounting screws. See page 8–8.
3. Remove the two mounting screws and the clamp plate.
4. Slide the cylinder out of the door and the Electronic Stand-Alone escutcheon.

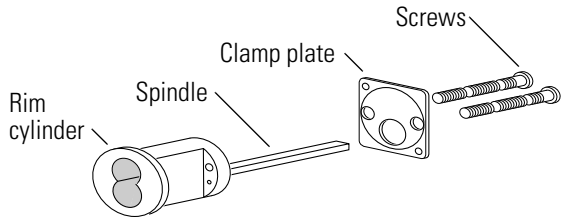


Figure 8.7 Rim cylinder components

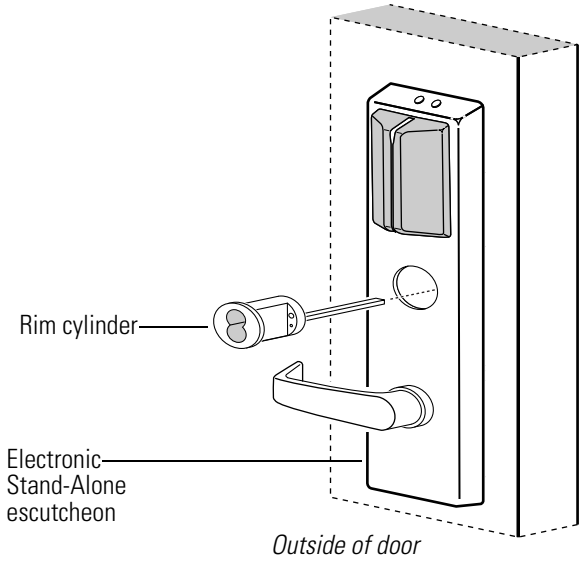


Figure 8.8 Removing and reinstalling the rim cylinder for Precision Hardware installations (B.A.S.I.S. escutcheon shown)

Reinstalling the rim cylinder for Precision Hardware installations

1. *If installing a new cylinder*, break off the new spindle to match the length of the old spindle.
2. Insert the cylinder through the cylinder opening in the Electronic Stand-Alone escutcheon and into the door as shown in Figure 8.8.
3. Orient the cylinder and clamp plate as shown in Figure 8.8. From the inside of the door, secure the cylinder using the clamp plate and mounting screws.
4. Reinstall the exit hardware. See page 8–8.
5. *If installing a new cylinder*, reinstall the core. See page 8–9.

Removing the rim cylinder for Von Duprin installations

Note: *The rim cylinder is used in rim and rod exit device installations.*

1. *If replacing the cylinder*, remove the core. See page 8–9.
2. Remove the following parts:
   - exit hardware as necessary to remove the Electronic Stand-Alone escutcheon (page 8–8)
   - Electronic Stand-Alone escutcheon (page 8–13).
3. From the back of the escutcheon, remove the two mounting screws and the cylinder clamp plate.
4. Lift the mounting sleeve off the cylinder.
5. Slide the cylinder out of the escutcheon.

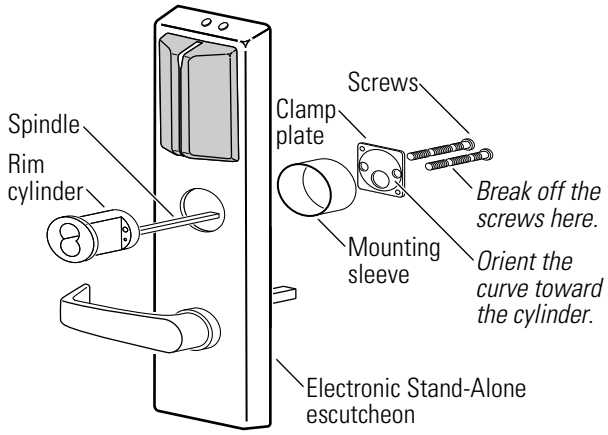


Figure 8.9 Removing and reinstalling the rim cylinder for Von Duprin installations (B.A.S.I.S. escutcheon shown)

Reinstalling the rim cylinder for Von Duprin installations

1. *If installing a new cylinder*, break off the spindle on the new cylinder to match the length of the old spindle.
2. From the front of the Electronic Stand-Alone escutcheon, insert the cylinder into the cylinder opening.
3. Holding the cylinder in position in the escutcheon, insert the cylinder mounting sleeve through the back of the escutcheon, over the cylinder.
4. Orient the cylinder and clamp plate as shown in Figure 8.9. From the back of the escutcheon, secure the cylinder and mounting sleeve using the clamp plate and mounting screws.
5. Reinstall the following parts:
   - Electronic Stand-Alone escutcheon (page 8–14)
   - exit hardware (page 8–8).
6. *If installing a new cylinder*, reinstall the core. See page 8–9.

SERVICING THE ELECTRONIC STAND-ALONE ESCUTCHEON

Removing the escutcheon

1. Remove the following parts:
   - battery cover (page 8–3)
   - battery pack (page 8–4)
   - battery bracket (page 8–6)
   - exit hardware (page 8–8)
   - core (for EV function locks) (page 8–9)
   - cylinder (for EV function locks) (page 8–11 for a Precision Hardware rim or rod exit device installation or a Sargent rim exit device installation, or page 8–10 for a mortise exit device installation).

   Note: If removing the escutcheon for a Von Duprin EV function rim or rod exit device installation, you cannot remove the cylinder from the escutcheon until you have removed the escutcheon from the door. See page 8–12.

2. Remove the escutcheon from the door, feeding the battery connector and com port (B.A.S.I.S. escutcheon) out the harness hole.

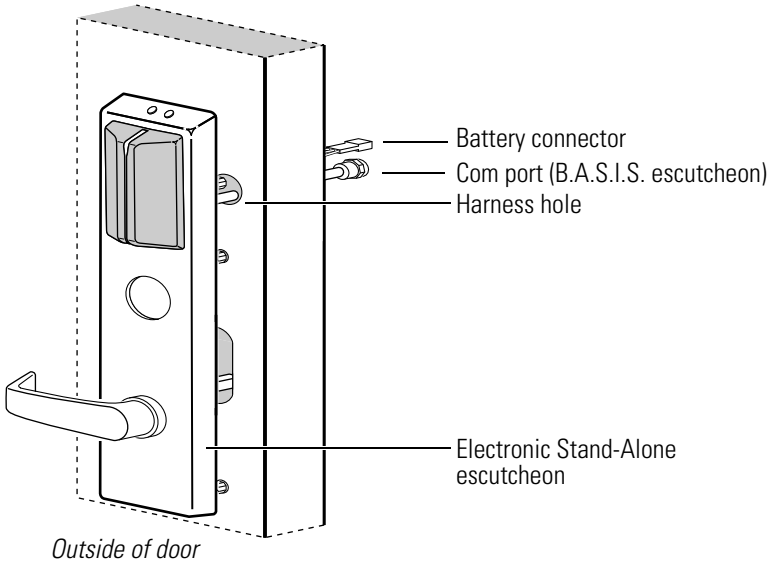


Figure 8.10 Removing and reinstalling the escutcheon (B.A.S.I.S. escutcheon shown)

Reinstalling the escutcheon

1. *If installing an escutcheon for a Von Duprin EV function rim or rod exit device*, reinstall the cylinder in the escutcheon. See page 8–12.
2. *If installing a new B.A.S.I.S. escutcheon,* activate the backup battery:
   a. Locate the backup battery tab on the inside of the B.A.S.I.S. escutcheon.
   b. Pull down on the tab and remove it from the B.A.S.I.S. escutcheon to turn on the backup battery.

Caution

For the lock to operate properly, you must remove the backup battery tab.

Caution

Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.

3. From the outside of the door, feed the com port (B.A.S.I.S. escutcheon) and battery connector through the harness hole as shown in Figure 8.10.

Caution

When routing the connectors, make sure the harnesses are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

4. Rest the Electronic Stand-Alone escutcheon on the door by inserting the trim studs into the mounting holes.
5. Reinstall the following parts:
   - cylinder (for EV function locks) (page 8–11 for a Precision Hardware rim or rod exit device installation or a Sargent rim exit device installation, or page 8–10 for a mortise exit device installation)
   - core (for EV function locks) (page 8–9)
   - exit hardware (page 8–8)
   - battery bracket (page 8–7)
   - battery pack (page 8–5)
   - battery cover (page 8–3).

9 Servicing Standard Outside Escutcheon Parts

This chapter contains instructions for servicing outside escutcheon parts for standard Electronic Stand-Alone Locks. For instructions on servicing Electronic Stand-Alone Exit Hardware Trim parts, see page 10–1.

- To remove all of the parts from the outside escutcheon, perform all of the steps for removing parts in each section of this chapter. Begin with the escutcheon gasket (page 9–2).
- To reinstall all of the parts in the outside escutcheon, perform all of the steps for reinstalling parts in each section of this chapter. Begin with the reader assembly (page 9–24).
- To service an individual part, see the section for that part. The instructions refer to other sections as necessary.

If you need to service…	See…
Escutcheon gasket	page 9–2
Harness clamp	page 9–3
Sensor harness or conversion harness	page 9–4
Primary harness	page 9–5
Control electronics board	page 9–8
Reader assembly	page 9–24

Note: When servicing components, always test that the lock works properly when you're finished.

SERVICING THE ESCUTCHEON GASKET

Caution

Before you handle the control electronics board or any component on the control electronics board, make sure that you are properly grounded using an electrostatic discharge (ESD) protection kit. Touching the control electronics board without proper grounding can damage sensitive electronic components—even if you don't notice any static discharge.

Removing the escutcheon gasket

1. Remove the inside and outside escutcheons from the door. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
2. Remove the escutcheon gasket from the escutcheon and discard the gasket.

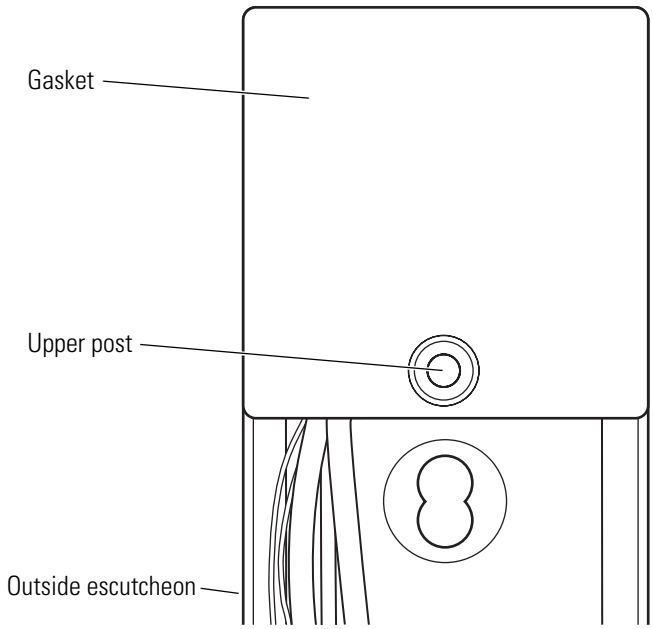


Figure 9.1 Removing and reinstalling the escutcheon gasket (B.A.S.I.S. escutcheon shown)

Reinstalling the escutcheon gasket

1. Peel away the protective backing from the edge of the escutcheon gasket and slide the gasket onto the upper escutcheon post. Press the gasket into place on the edge of the escutcheon so the electronics board is covered.
2. Reinstall the inside and outside escutcheons on the door. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

SERVICING THE HARNESS CLAMP

Removing the harness clamp

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2).
2. Loosen the electronics board mounting screw that holds the harness clamp and remove the clamp.

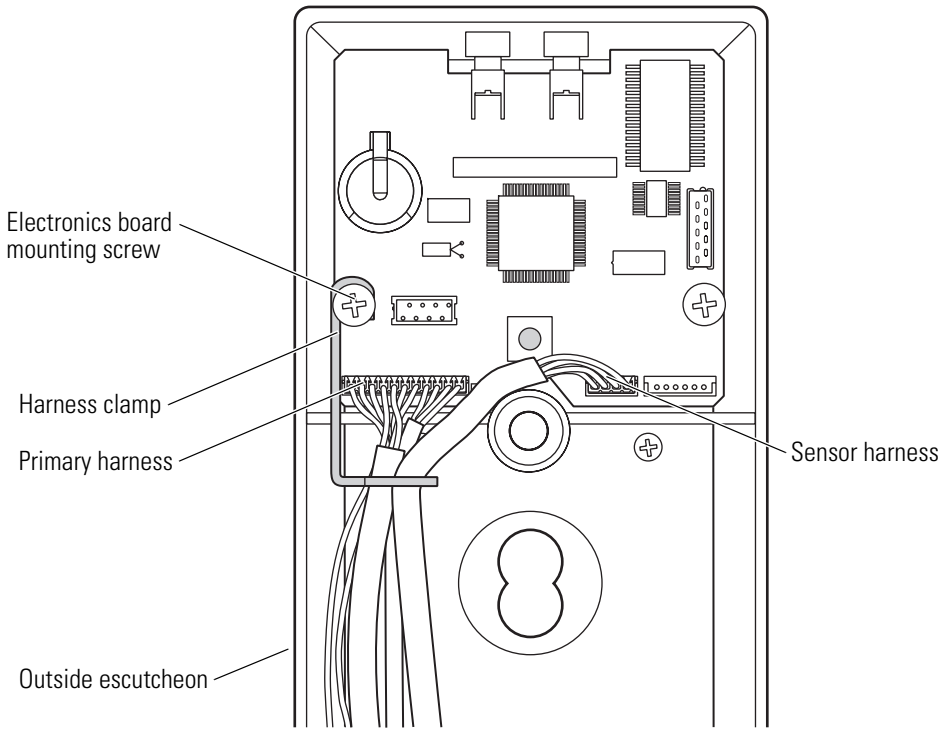


Figure 9.2 Removing and reinstalling the harness clamp (B.A.S.I.S. smart card reader shown)

Reinstalling the harness clamp

1. Slide the harness clamp under the loosened electronics board mounting screw.
2. Position the primary harness and sensor harness (B.A.S.I.S. EV, FV, and LV function mortise locks) under the clamp, as shown in Figure 9.2.

   Note: For a description of lock functions, see page 2–2.
3. Tighten the screw.
4. Reinstall the following parts:
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

SERVICING THE B.A.S.I.S. SENSOR HARNESS

Replacement kits are available for the B.A.S.I.S. sensor harness and the B.A.S.I.S. conversion harness. See page 4–7.

These steps are for EV, FV, and LV function mortise locks only.

Note: For a description of lock functions, see page 2–2.

Removing the sensor harness

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3).
2. Disconnect the sensor harness from the electronics board.

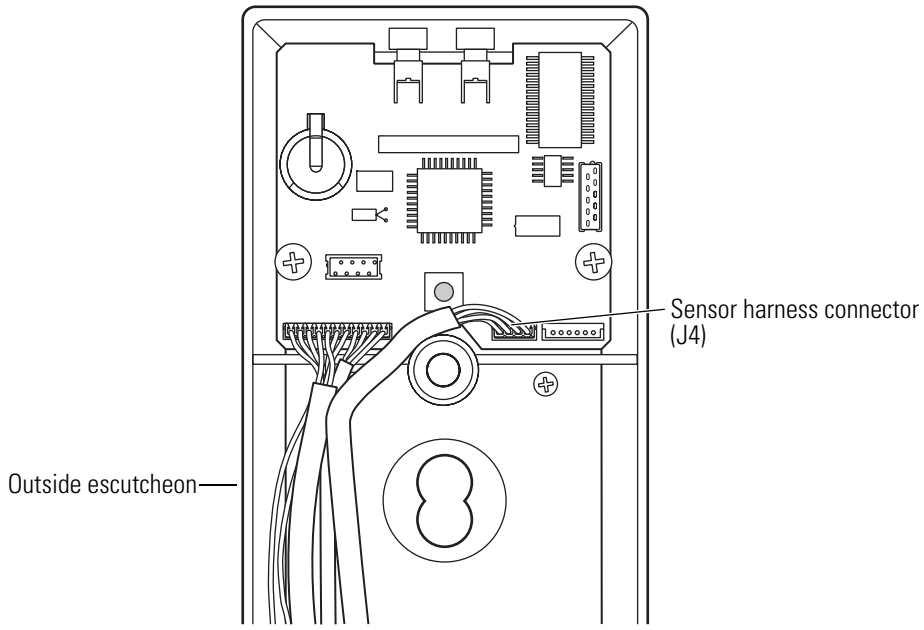


Figure 9.3 Removing and reinstalling the B.A.S.I.S. sensor harness (B.A.S.I.S. smart card reader shown)

Reinstalling the sensor harness

1. Connect the sensor harness to the J4 connector on the electronics board.
2. Reinstall the following parts:
   - harness clamp (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

SERVICING THE PRIMARY HARNESS

A replacement kit is available for the primary harness. See page 4–7.

Removing the primary harness

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3).
2. Disconnect the primary harness from the electronics board.

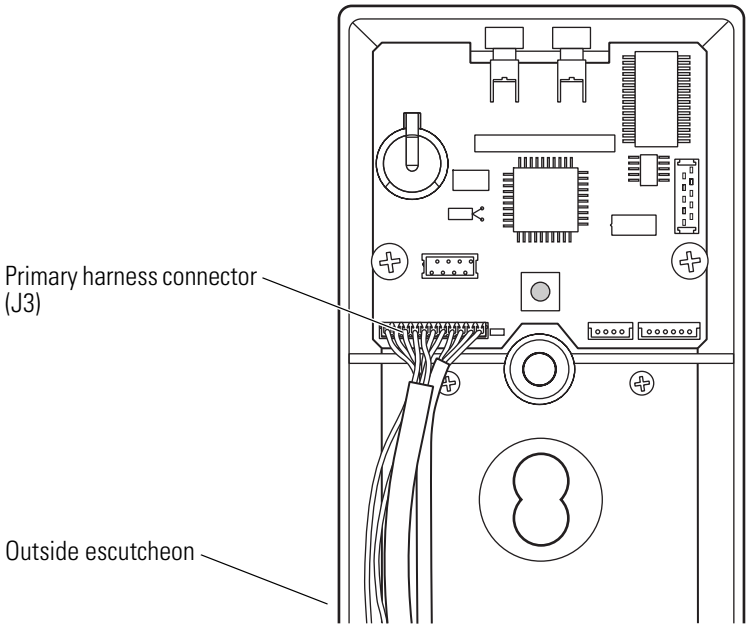


Figure 9.4 Removing and reinstalling the primary harness from the electronics board (B.A.S.I.S. smart card reader shown)

3. *For B.A.S.I.S. Locks*, insert a flat blade screwdriver under the sounder and turn it to remove the sounder from the outside escutcheon.

4. *For B.A.S.I.S. Locks*, loosen the nut and slide the com port out from the escutcheon.

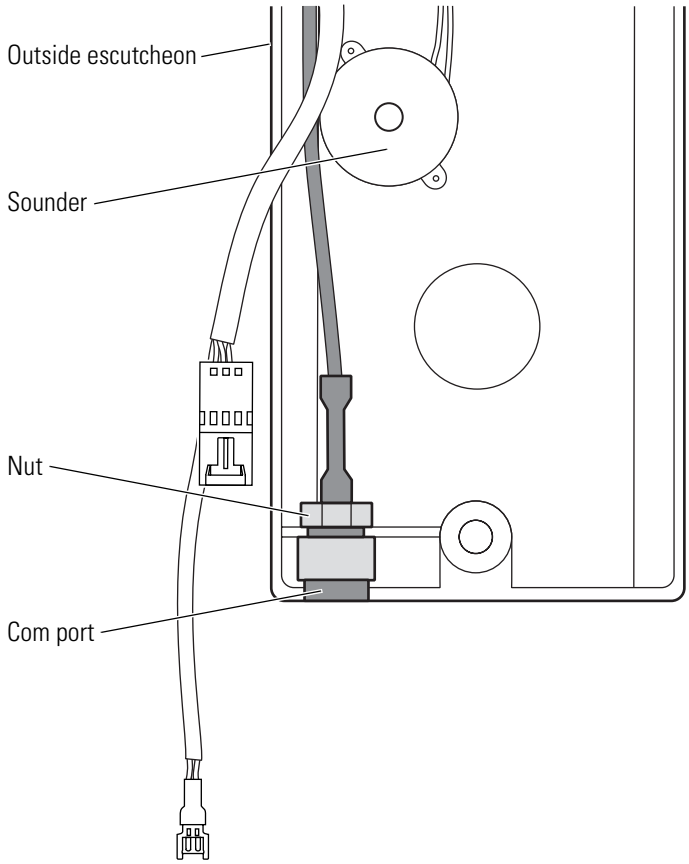


Figure 9.5 Disconnecting the sounder and com port from the B.A.S.I.S. outside escutcheon

Reinstalling the primary harness

1. Connect the primary wire harness to the J3 connector on the electronics board.
2. *For B.A.S.I.S. Locks*, remove the backing from the adhesive tape and apply the tape to the escutcheon.
3. Press the sounder in place on the tape.

4. *For B.A.S.I.S. Locks*, slide the com port into place in the escutcheon and tighten the nut. See Figure 9.6.

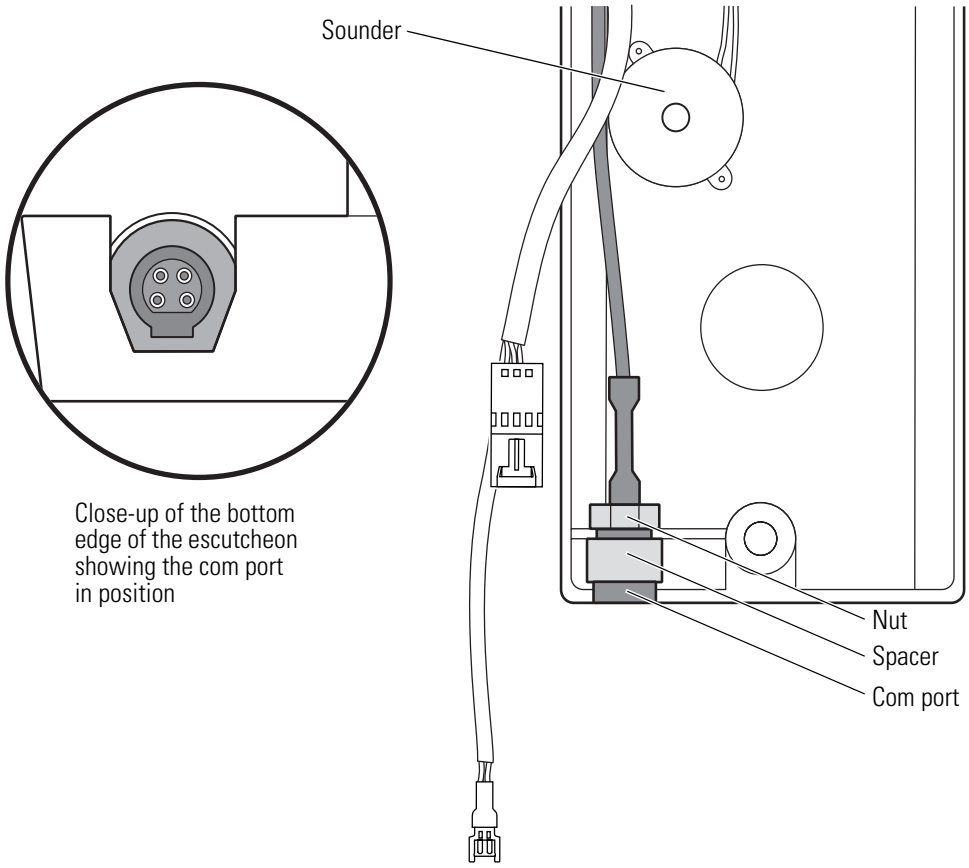


Figure 9.6 Connecting the sounder and com port to the B.A.S.I.S. outside escutcheon

5. Reinstall the following parts:
   - harness clamp (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

SERVICING THE CONTROL ELECTRONICS BOARDS

Replacement kits are available for B.A.S.I.S. control electronics boards. See page 4–5.

Note: To determine whether a B.A.S.I.S. Lock has a B.A.S.I.S. G or B.A.S.I.S. V control electronics board, look at the label on the center of the board. B.A.S.I.S. G is labeled as BAGLKS. B.A.S.I.S. V is labeled as BA_LKS.

To replace a Keypad EZ control electronics board, obtain the following parts:

- Keypad EZ control electronics board (B80963)
- escutcheon gasket (A60800).

Removing the B.A.S.I.S. magnetic stripe control electronics board

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (page 9–5, step 2).
2. Remove and save the electronics board mounting screws. See Figure 9.7.
3. Disconnect the reader harness from the electronics board. Set aside the electronics board.

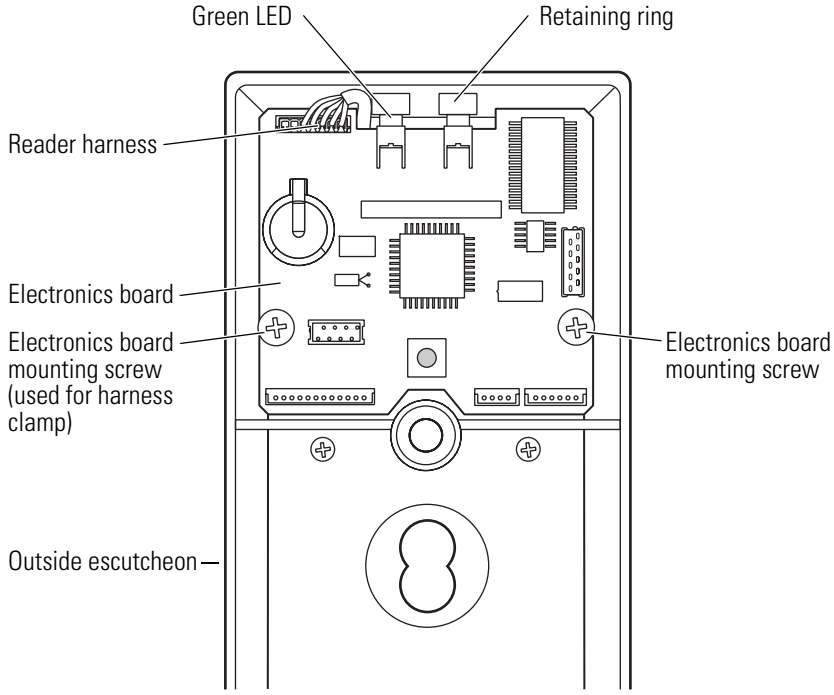


Figure 9.7 Removing and reinstalling the B.A.S.I.S. magnetic stripe control electronics board

Reinstalling the B.A.S.I.S. magnetic stripe control electronics board

1. If you are installing a new control electronics board, pull down on the backup battery tab and remove it from the outside escutcheon to turn on the backup battery.

Caution

For the lock to operate properly, you must remove the backup battery tab.

Caution

Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.

2. Firmly connect the reader harness to the connector on the upper-left corner of the electronics board. The connector should snap into place. See Figure 9.7.
3. Route the reader harness so it fits to the side of the green LED.
4. Position the electronics board in the escutcheon so the LEDs fit into the retaining rings.
5. Install the two electronics board mounting screws, but do not tighten the screw for the harness clamp.
6. Reinstall the following parts:
   - primary harness (page 9–6, step 1)
   - sensor harness (page 9–4)
   - harness clamp (and tighten the electronics board mounting screw) (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the B.A.S.I.S. smart card control electronics board

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (step 2, page 9–5).
2. Remove and save the electronics board mounting screws. See Figure 9.8.

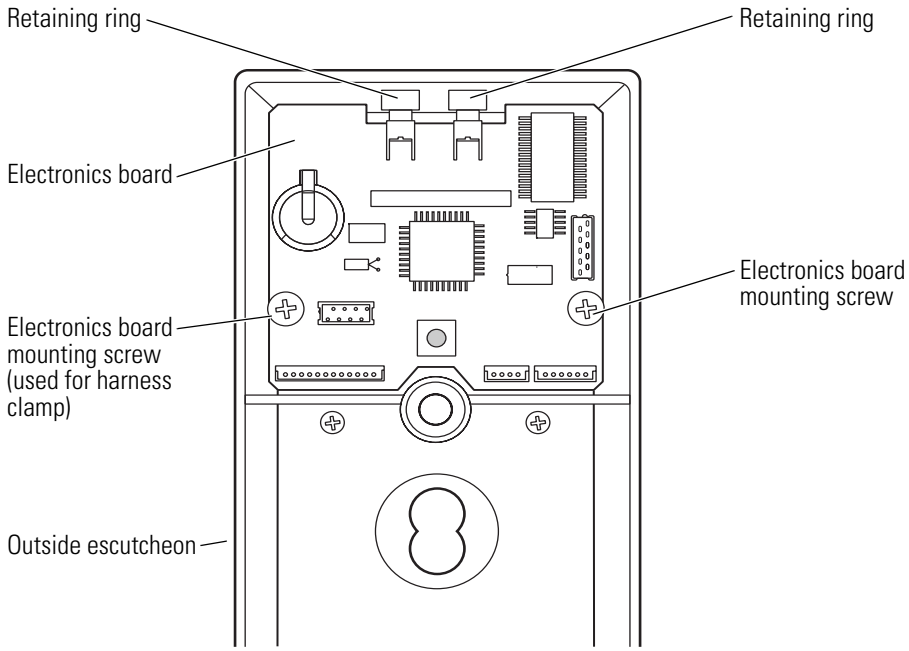


Figure 9.8 Removing and reinstalling the B.A.S.I.S. smart card control electronics board

3. Flip up the control electronics board.
4. Slide open the flex cable connector and disconnect the flex cable. Set aside the electronics board. See Figure 9.9.

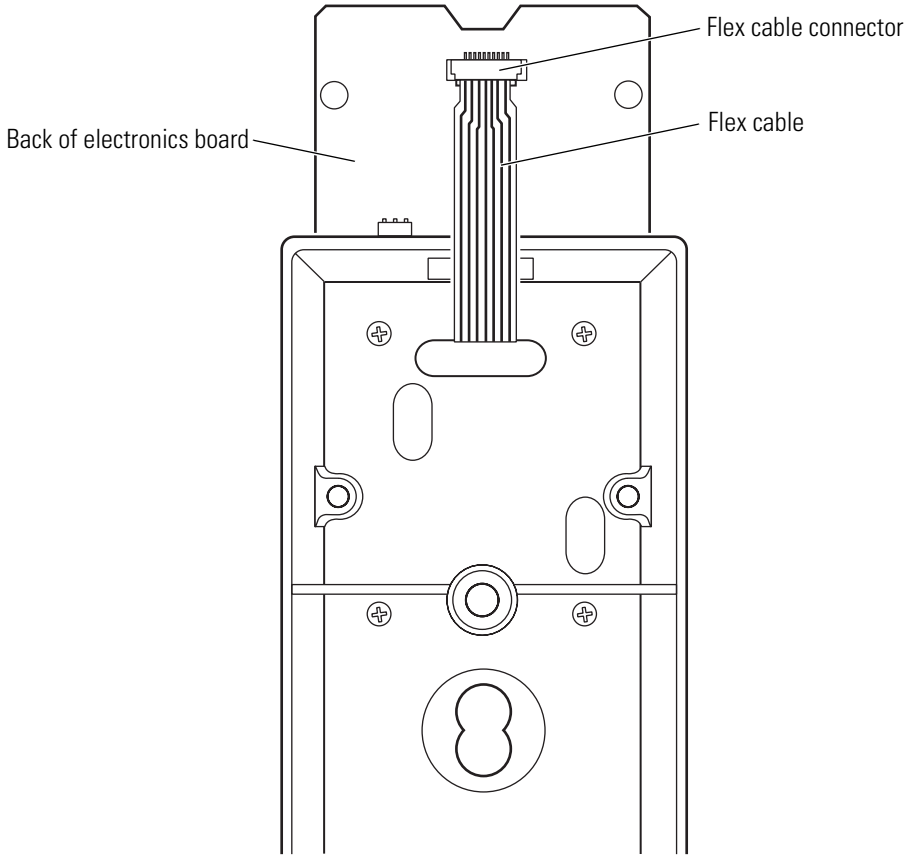


Figure 9.9 Disconnecting the flex cable from the B.A.S.I.S. smart card control electronics board

Reinstalling the B.A.S.I.S. smart card control electronics board

1. If you are installing a new control electronics board, pull down on the backup battery tab and remove it from the outside escutcheon to turn on the backup battery.

Caution

For the lock to operate properly, you must remove the backup battery tab.

Caution

Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.

2. Insert the flex cable into the connector on the back of the electronics board. See Figure 9.10.
3. Slide closed the flex cable connector.
4. Flip down the electronics board and position it in the escutcheon so the LEDs fit into the retaining rings.

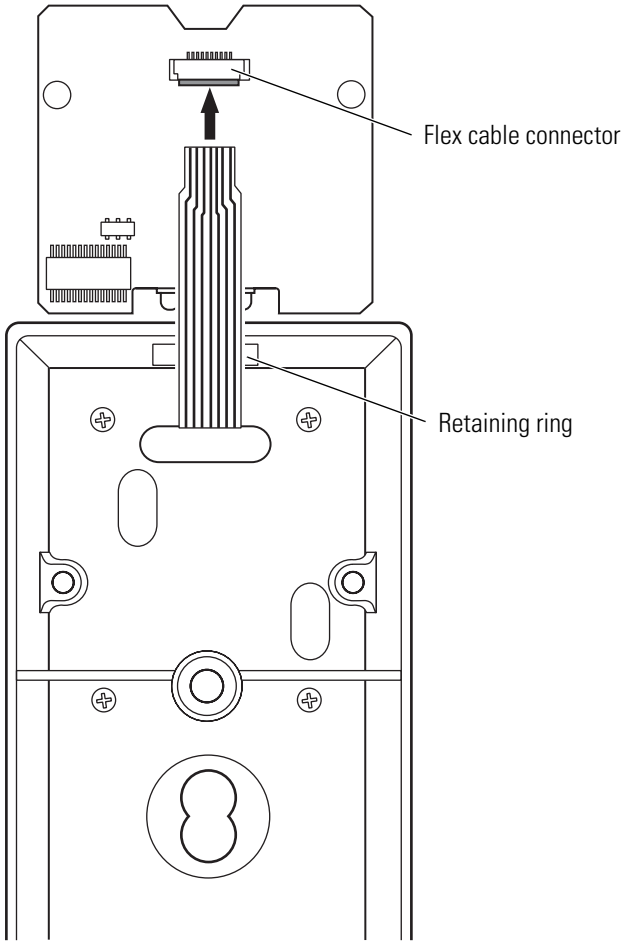


Figure 9.10 Connecting the flex cable to the B.A.S.I.S. smart card control electronics board

5. Install the two electronics board mounting screws, but do not tighten the screw for the harness clamp.
6. Reinstall the following parts:
   - primary harness (page 9–6, step 1)
   - sensor harness (page 9–4)
   - harness clamp (and tighten the electronics board mounting screw) (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the B.A.S.I.S. dual validation control electronics board

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (page 9–5, step 2).
2. Remove and save the electronics board mounting screws. See Figure 9.11.
3. Disconnect the reader cable from the electronics board. Set aside the electronics board.

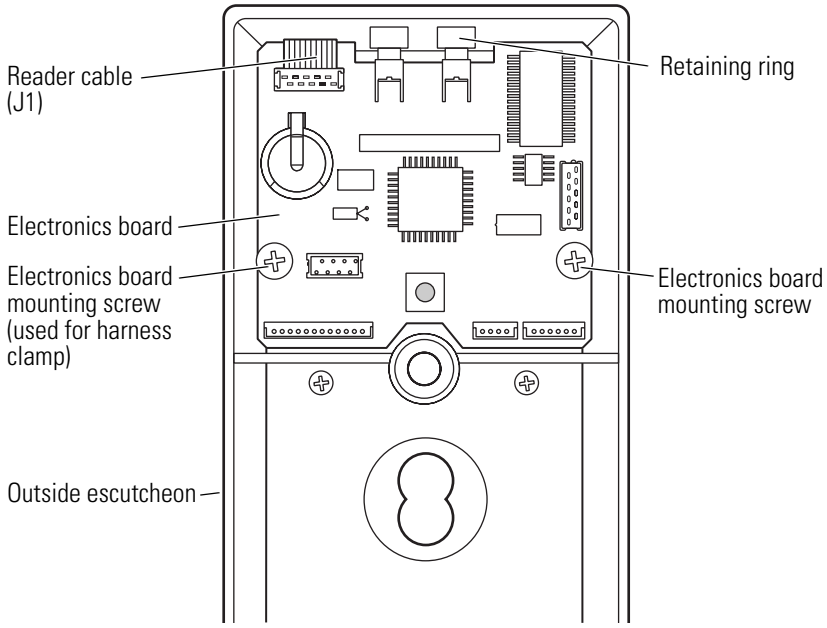


Figure 9.11 Removing and reinstalling the B.A.S.I.S. dual validation control electronics board

Reinstalling the B.A.S.I.S. dual validation control electronics board

1. If you are installing a new control electronics board, pull down on the backup battery tab and remove it from the outside escutcheon to turn on the backup battery.

Caution

For the lock to operate properly, you must remove the backup battery tab.

Caution

Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.

2. Firmly connect the reader harness to the connector on the upper-left corner of the electronics board. The connector should snap into place. See Figure 9.11.
3. Route the reader cable so it fits in between the top of the electronics board and the escutcheon.
4. Position the electronics board in the escutcheon so the LEDs fit into the retaining rings.
5. Install the two electronics board mounting screws, but do not tighten the screw for the harness clamp.
6. Reinstall the following parts:
   - primary harness (page 9–6, step 1)
   - sensor harness (page 9–4)
   - harness clamp (and tighten the electronics board mounting screw) (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the B.A.S.I.S. V proximity control electronics board

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (page 9–5, step 2).
2. Remove and save the electronics board mounting screws. See Figure 9.12.
3. Carefully pull the electronics board straight out from the escutcheon and remove it. Set aside the electronics board.

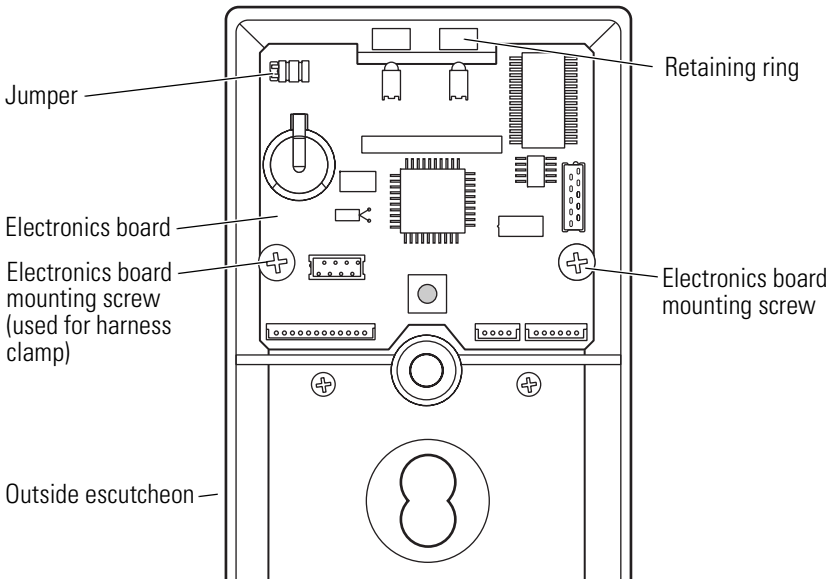


Figure 9.12 Removing and reinstalling the B.A.S.I.S. V proximity control electronics board

Reinstalling the B.A.S.I.S. V proximity control electronics board

1. If you are installing a new control electronics board, pull down on the backup battery tab and remove it from the outside escutcheon to turn on the backup battery.

Caution

For the lock to operate properly, you must remove the backup battery tab.

Caution

Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.

2. Align the connectors on the back of the electronics board with the reader pins. Press the board into place.
3. Install the two electronics board mounting screws, but do not tighten the screw for the harness clamp.

   Note: The jumper shown in Figure 9.12 must be installed in order to use an ABA card format with a proximity card reader. This jumper must be removed to use a Weigand card format.
4. Reinstall the following parts:
   - primary harness (page 9–6, step 1)
   - sensor harness (page 9–4)
   - harness clamp (and tighten the electronics board mounting screw) (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the Keypad EZ control electronics board

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - primary harness (step 2, page 9–5).
2. Remove and save the electronics board mounting screws. See Figure 9.13.

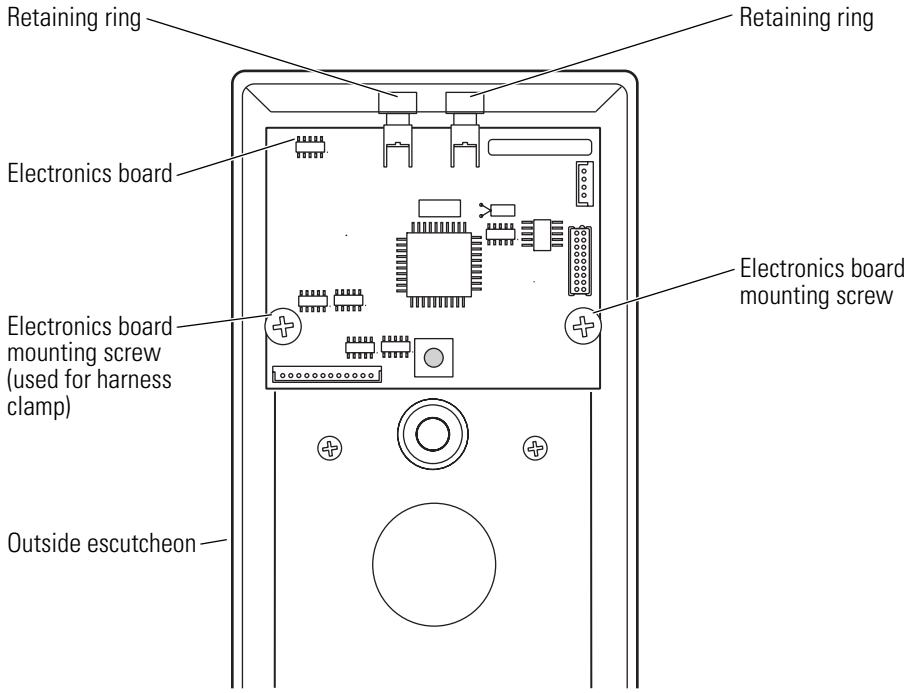


Figure 9.13 Removing and reinstalling the Keypad EZ control electronics board

3. Flip up the control electronics board.

4. Disconnect the flex cable from the electronics board by sliding the cable connector down off the prongs. Set aside the electronics board. See Figure 9.14.

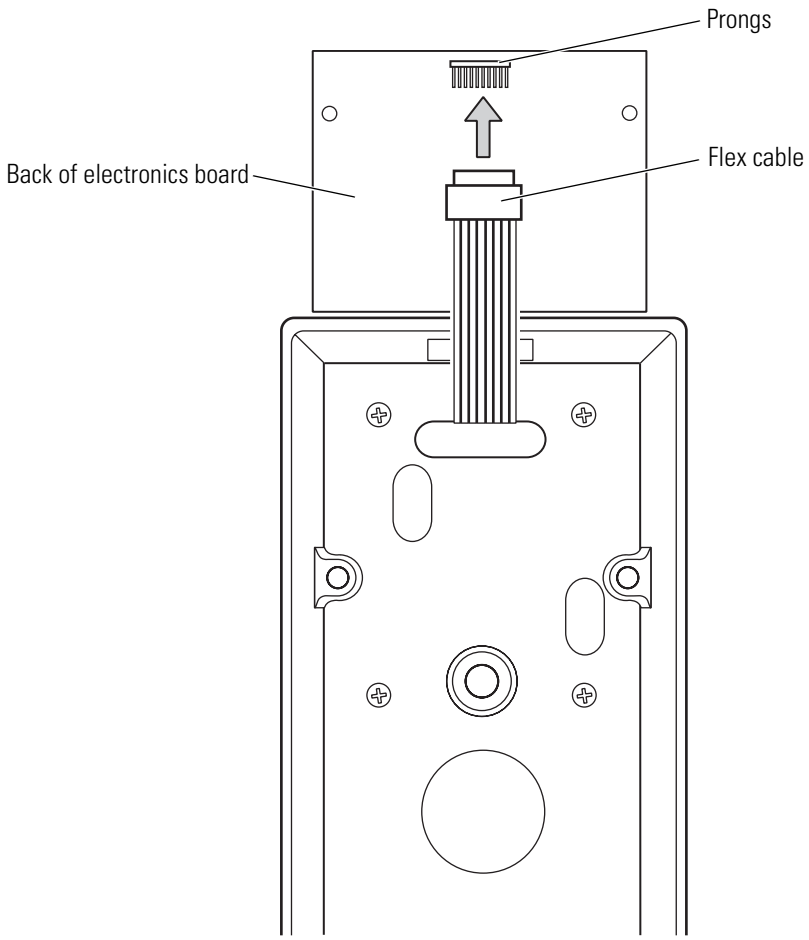


Figure 9.14 Disconnecting the flex cable from the Keypad EZ control electronics board

Reinstalling the Keypad EZ control electronics board

1. Orient the electronics board as shown in Figure 9.15 and slide the flex cable connector onto the prongs on the back of the electronics board.

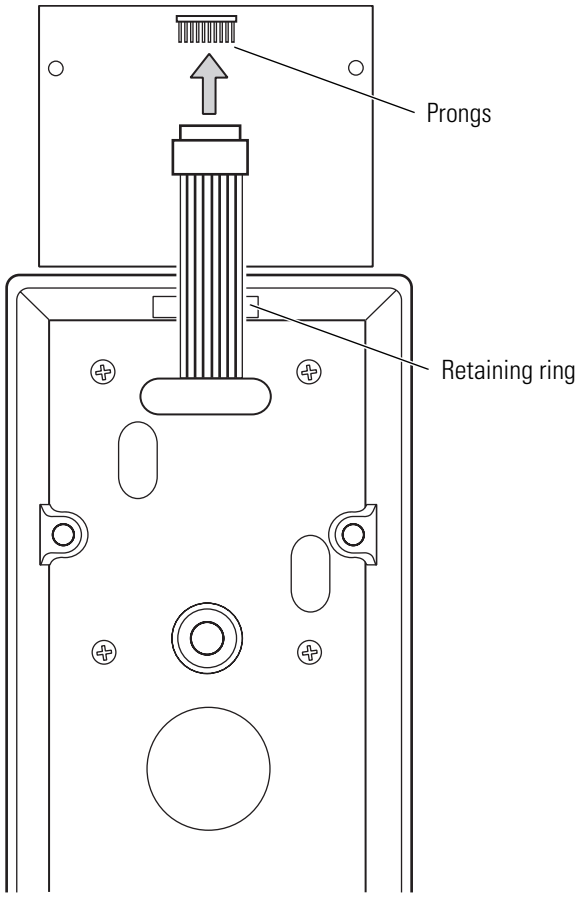


Figure 9.15 Connecting the flex cable to the Keypad EZ control electronics board

2. Flip down the electronics board and position it in the escutcheon so the LEDs fit into the retaining rings.
3. Install the two electronics board mounting screws, but do not tighten the screw for the harness clamp.
4. Reinstall the following parts:
   - primary harness (page 9–6, step 1)
   - harness clamp (and tighten the electronics board mounting screw) (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

SERVICING THE READER ASSEMBLIES

Replacement kits are available for the B.A.S.I.S. reader assemblies. See page 4–4.

To replace a Keypad EZ reader, obtain the following parts:

- Keypad reader (B60325)
- escutcheon gasket (A60800).

Removing the B.A.S.I.S. magnetic stripe reader

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (step 2, page 9–5)
   - electronics board (page 9–10).
2. Remove and save the four reader assembly mounting screws. See Figure 9.16.

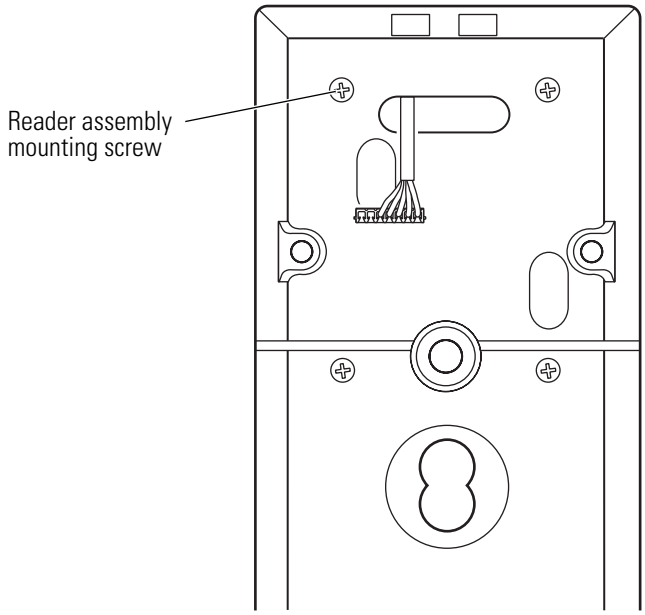


Figure 9.16 Removing and reinstalling the screws for the B.A.S.I.S. magnetic stripe reader assembly

3. Remove the magnetic stripe reader assembly from the outside escutcheon, sliding the reader harness through the slot in the escutcheon. See Figure 9.17.

   Note: To determine the read head track position for ordering a magnetic stripe reader replacement kit, look at the back of the reader for the label that states, "This reader was factory set to read magstripe track no. 1 2." The track number is circled. If there is no label, the track number is 3.

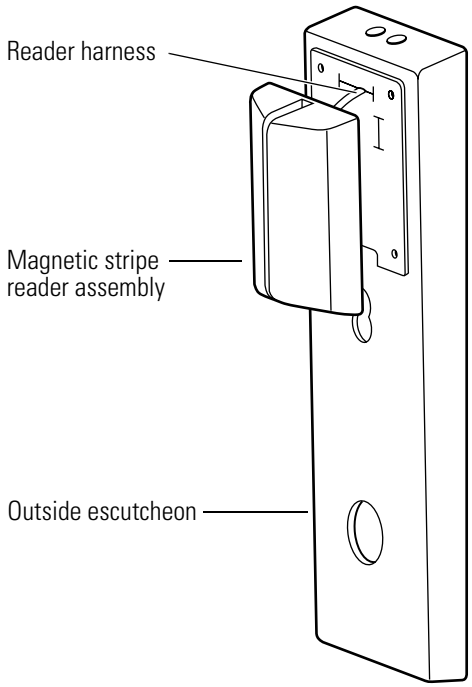


Figure 9.17 Removing the B.A.S.I.S. magnetic stripe reader assembly from the outside escutcheon

Reinstalling the B.A.S.I.S. magnetic stripe reader assembly

1. Orient the magnetic stripe reader assembly and insert the reader harness through the slot in the outside escutcheon. See Figure 9.18.

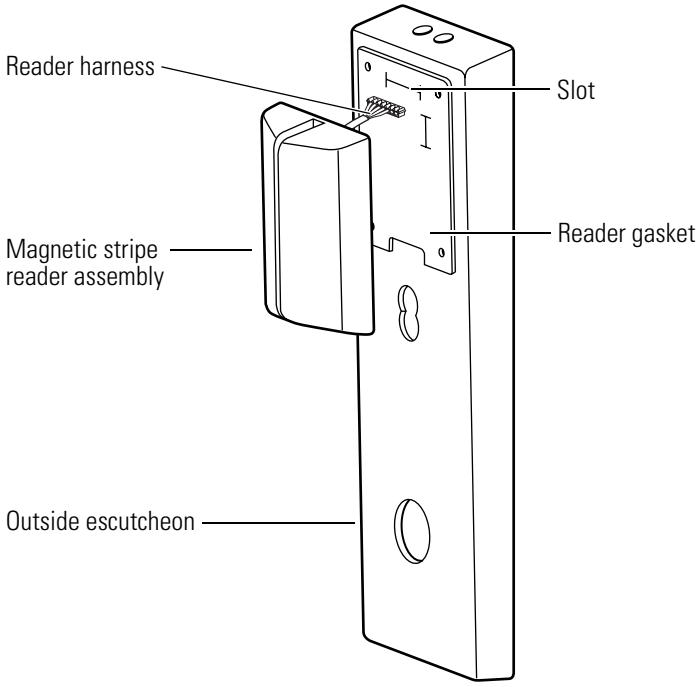


Figure 9.18 Positioning the B.A.S.I.S. magnetic stripe reader assembly

2. Position the reader assembly on the reader gasket and install the four reader assembly mounting screws. See Figure 9.16.
3. Reinstall the following parts:
   - electronics board (page 9–12)
   - primary harness (page 9–6, step 1)
   - sensor harness (page 9–4)
   - harness clamp (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the B.A.S.I.S. smart card reader assembly

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (step 2, page 9–5)
   - electronics board (page 9–10).
2. Remove and save the four reader assembly mounting screws. See Figure 9.19.

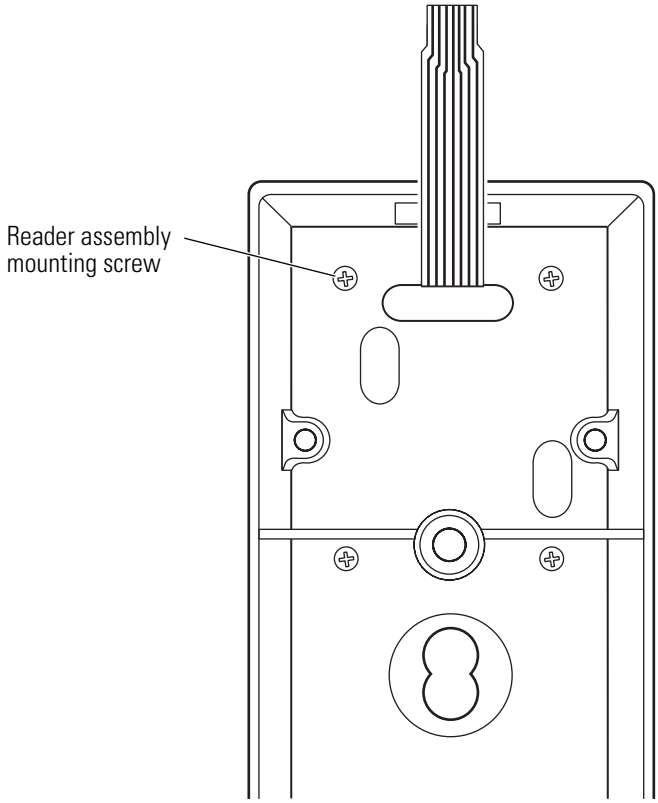


Figure 9.19 Removing and reinstalling the screws for the B.A.S.I.S. smart card reader assembly

3. Remove the smart card reader assembly from the outside escutcheon, sliding the flex cable through the slot in the escutcheon. See Figure 9.20.

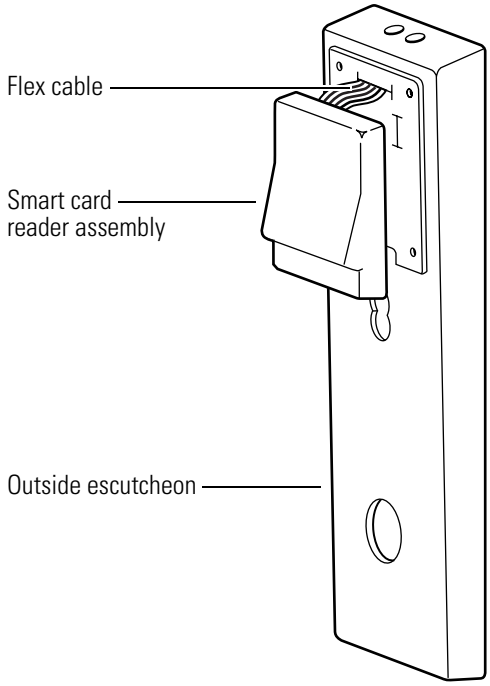


Figure 9.20 Removing the B.A.S.I.S. smart card reader assembly from the outside escutcheon

Reinstalling the B.A.S.I.S. smart card reader assembly

1. Orient the reader assembly and insert the flex cable through the slot in the outside escutcheon. See Figure 9.21.

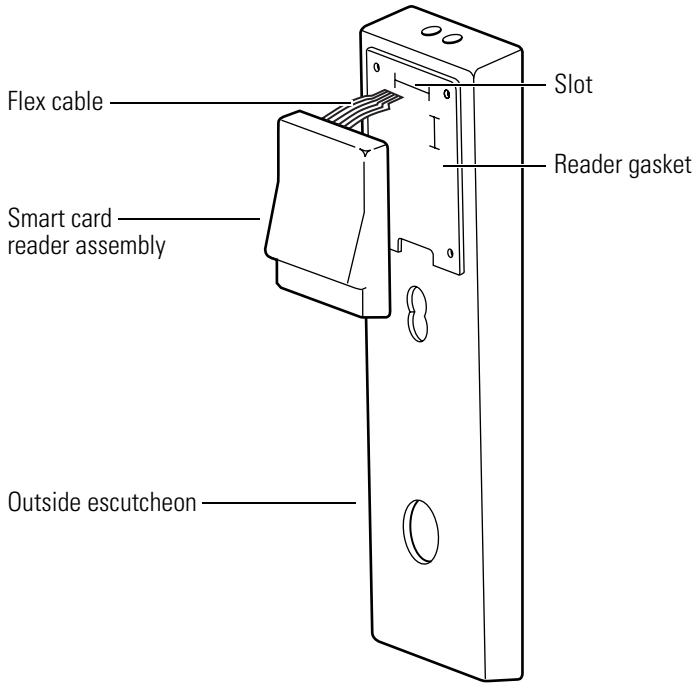


Figure 9.21 Positioning the B.A.S.I.S. smart card reader assembly

2. Position the smart card reader assembly on the reader gasket and install the four reader assembly mounting screws. See Figure 9.19.
3. Reinstall the following parts:
   - electronics board (page 9–12)
   - primary harness (step 1, page 9–6)
   - sensor harness (page 9–4)
   - harness clamp (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the B.A.S.I.S. dual validation reader assembly

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (step 2, page 9–5)
   - electronics board (page 9–14).
2. Remove and save the four reader assembly mounting screws. See Figure 9.22.

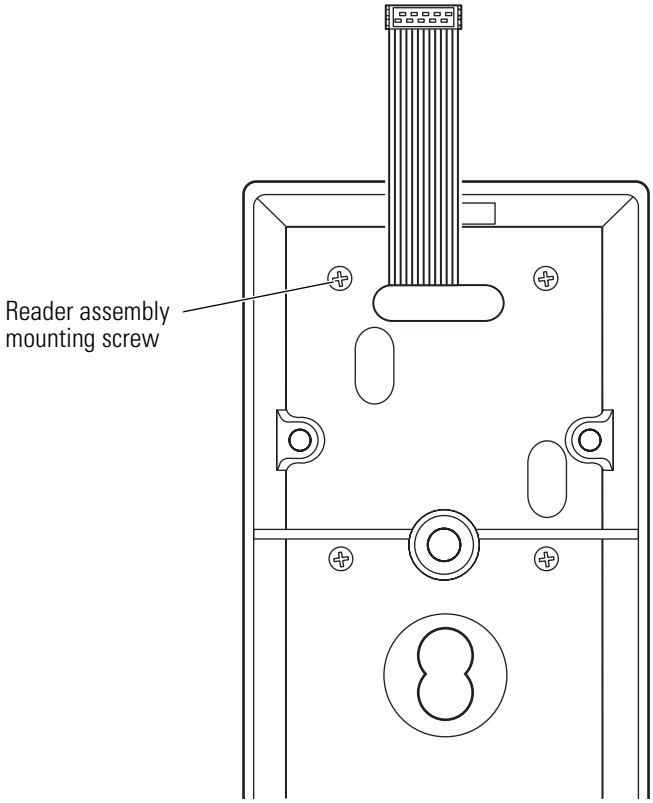


Figure 9.22 Removing and reinstalling the screws for the B.A.S.I.S. dual validation reader assembly

3. Remove the dual validation reader assembly from the outside escutcheon, sliding the reader cable through the slot in the escutcheon. See Figure 9.23.

   Note: To determine the read head track position for ordering a dual validation reader replacement kit, look at the back of the reader for the label that states, "This reader was factory set to read dual validation track no. 1 2." The track number is circled. If there is no label, the track number is 3.

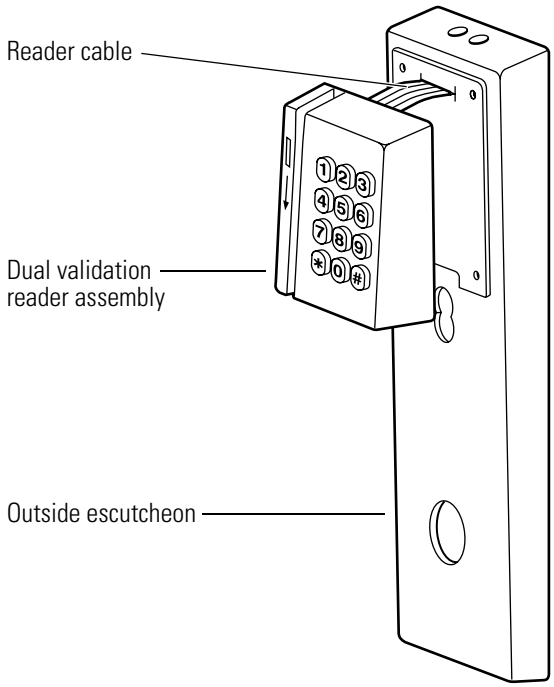


Figure 9.23 Removing the B.A.S.I.S. dual validation reader assembly from the outside escutcheon

Reinstalling the B.A.S.I.S. dual validation reader assembly

1. Orient the dual validation reader assembly and insert the reader cable through the slot in the outside escutcheon. See Figure 9.24.

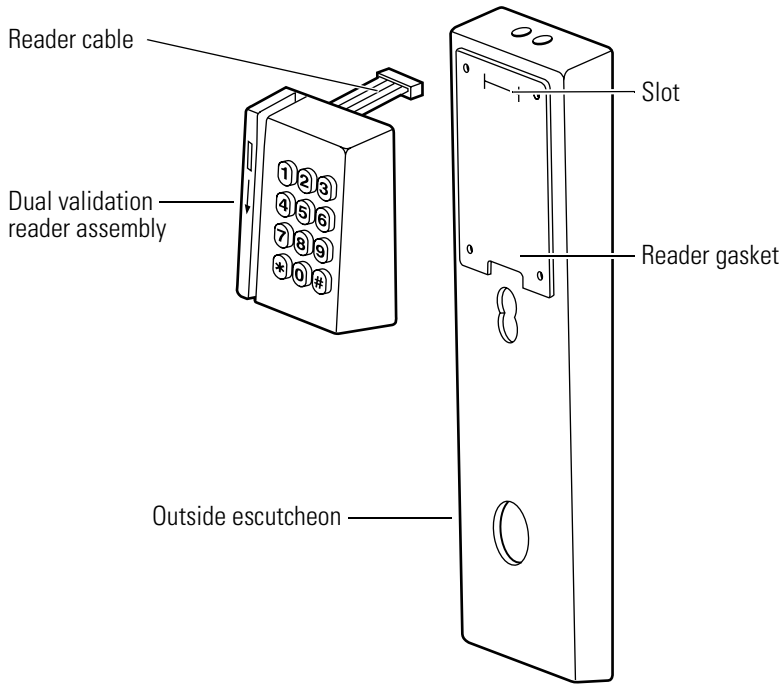


Figure 9.24 Positioning the B.A.S.I.S. dual validation reader assembly

2. Position the reader assembly on the reader gasket and install the four reader assembly mounting screws. See Figure 9.22.
3. Reinstall the following parts:
   - electronics board (page 9–15)
   - primary harness (page 9–6, step 1)
   - sensor harness (page 9–4)
   - harness clamp (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the B.A.S.I.S. V proximity reader assembly

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - sensor harness (page 9–4)
   - primary harness (step 2, page 9–5)
   - electronics board (page 9–16).
2. Remove and save the four reader assembly mounting screws. See Figure 9.25.

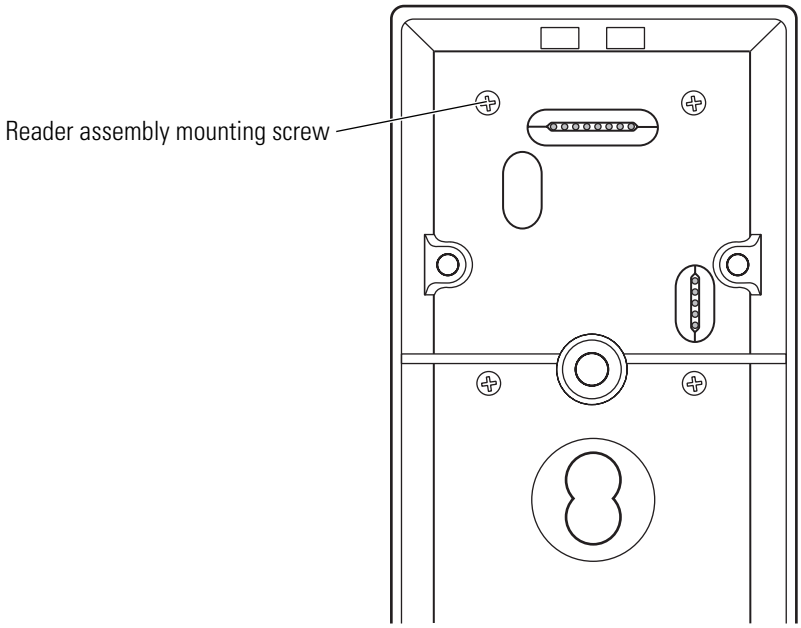


Figure 9.25 Removing the B.A.S.I.S. V proximity reader assembly from the outside escutcheon

3. Remove the proximity reader assembly from the outside escutcheon.

Reinstalling the B.A.S.I.S. V proximity reader assembly

1. Orient the proximity reader assembly and insert the prongs through the slots in the outside escutcheon. See Figure 9.26.

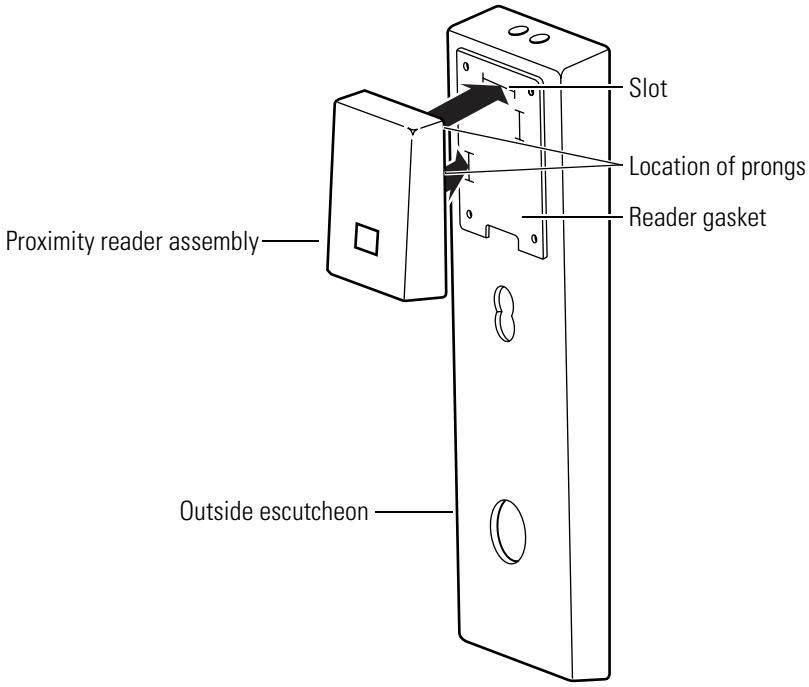


Figure 9.26 Positioning the B.A.S.I.S. V proximity reader assembly

2. Position the reader assembly on the reader gasket and install the four reader assembly mounting screws. See Figure 9.25.
3. Reinstall the following parts:
   - electronics board (page 9–17)
   - primary harness (page 9–6, step 1)
   - sensor harness (page 9–4)
   - harness clamp (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

Removing the Keypad EZ reader assembly

1. Remove the following parts:
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–6. *For cylindrical lock instructions*, see page 7–5.
   - escutcheon gasket (page 9–2)
   - harness clamp (page 9–3)
   - primary harness (step 2, page 9–5)
   - electronics board (page 9–10).
2. Remove and save the four reader assembly mounting screws. See Figure 9.27.

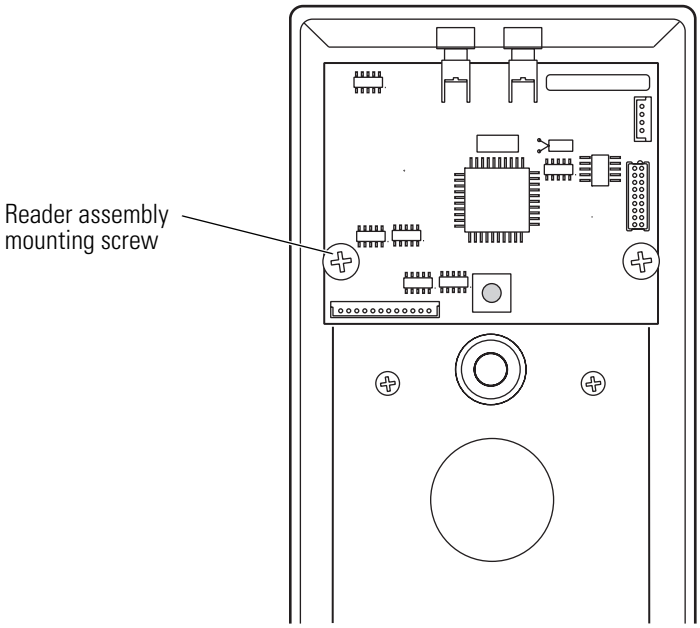


Figure 9.27 Removing and reinstalling the screws for the Keypad EZ reader assembly

3. Remove the Keypad reader from the outside escutcheon, sliding the flex cable through the slot in the escutcheon. See Figure 9.28.

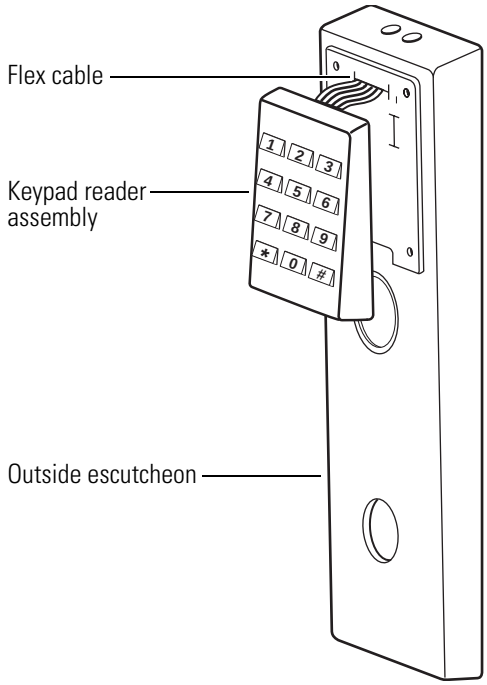


Figure 9.28 Removing the Keypad EZ reader assembly from the outside escutcheon

Reinstalling the Keypad EZ reader assembly

1. Orient the reader assembly and insert the flex cable through the slot in the outside escutcheon. See Figure 9.29.

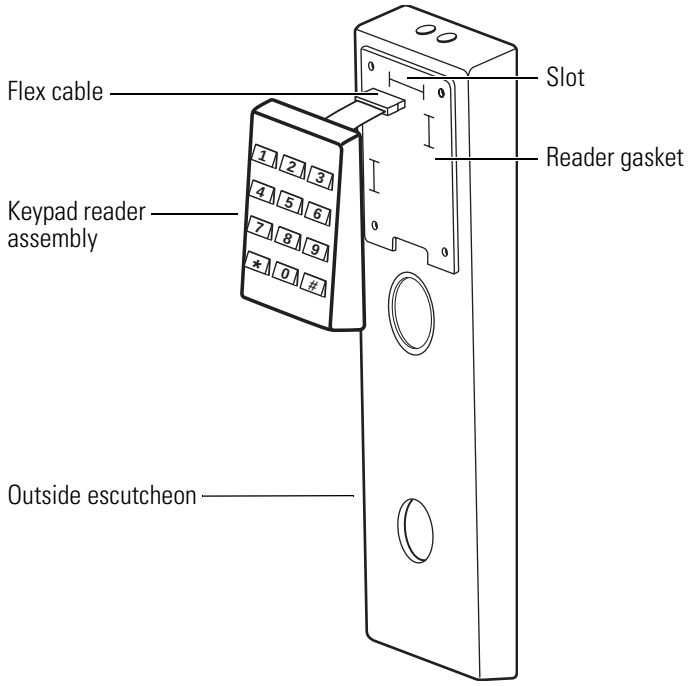


Figure 9.29 Positioning the Keypad EZ reader assembly

2. Position the reader assembly on the reader gasket and install the four reader assembly mounting screws. See Figure 9.29.
3. Reinstall the following parts:
   - electronics board (page 9–12)
   - primary harness (step 1, page 9–6)
   - harness clamp (page 9–3)
   - escutcheon gasket (page 9–2)
   - inside and outside escutcheons. *For mortise lock instructions*, see page 5–10. *For cylindrical lock instructions*, see page 7–9.

10 Servicing Exit Hardware Trim Escutcheon Parts

This chapter contains instructions for servicing escutcheon parts for Electronic Stand-Alone Exit Hardware Trim. For instructions for servicing outside escutcheon parts for standard Electronic Stand-Alone Locks, see page 9–1.

- To remove all of the parts from the Electronic Stand-Alone escutcheon, perform all of the steps for removing parts in each section of this chapter. Begin with the mounting standoffs (page 10–2).
- To reinstall all of the parts in the Electronic Stand-Alone escutcheon, perform all of the steps for reinstalling parts in each section of this chapter. Begin with the shear pin (page 10–29).
- To change the handing for the Electronic Stand-Alone escutcheon, see page 10–30.
- To service an individual part, see the section for that part. The instructions refer to other sections as necessary.

If you need to service…	See…
Mounting standoffs	page 10–2
Escutcheon gasket	page 10–3
Lift finger	page 10–4
Mounting plate	page 10–6
Lever return springs	page 10–8
Primary harness	page 10–9
Control electronics board	page 10–10

If you need to service…	See…
Reader assembly	page 10–13
Motor assembly	page 10–16
Locking plate	page 10–20
Yoke	page 10–22
Beam and beam roller	page 10–24
Lever assembly	page 10–26
Shear pin	page 10–28

Note: When servicing components, always test that the lock works properly when you're finished.

SERVICING THE MOUNTING STANDOFFS

Removing the mounting standoffs

1. Remove the escutcheon from the door. See page 8–13.
2. Unscrew the 6 mounting plate standoffs from the mounting plate.

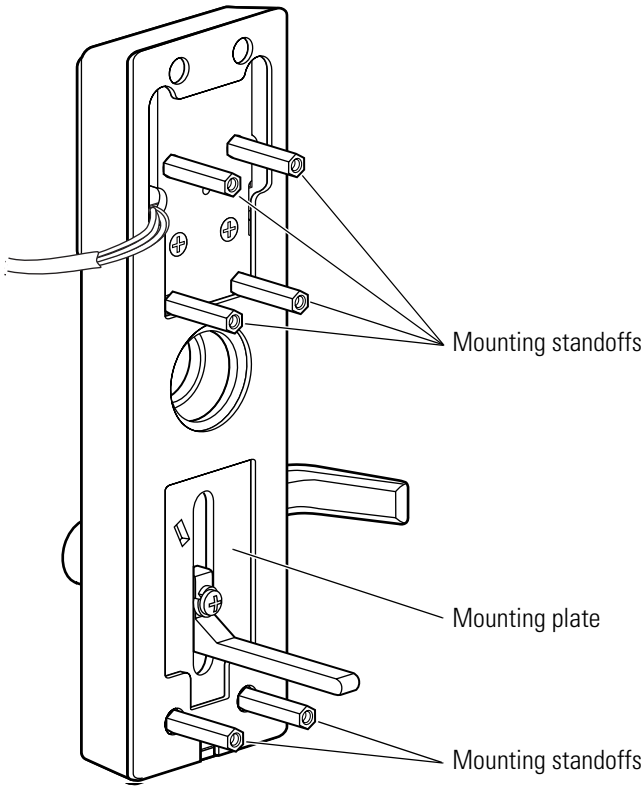


Figure 10.1 Removing and reinstalling the mounting standoffs

Reinstalling the mounting standoffs

1. Screw the 6 mounting standoffs onto the mounting plate.
2. Reinstall the escutcheon on the door. See page 8–14.

SERVICING THE ESCUTCHEON GASKET

Each time you service the escutcheon gasket you need to replace it with a new gasket. Use part number C64564 when ordering.

Removing the escutcheon gasket

1. Remove the followings parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2).
2. Peel the gasket off the escutcheon and discard. See Figure 10.2.

   Note: You may need to scrape remnants of the gasket from the escutcheon.

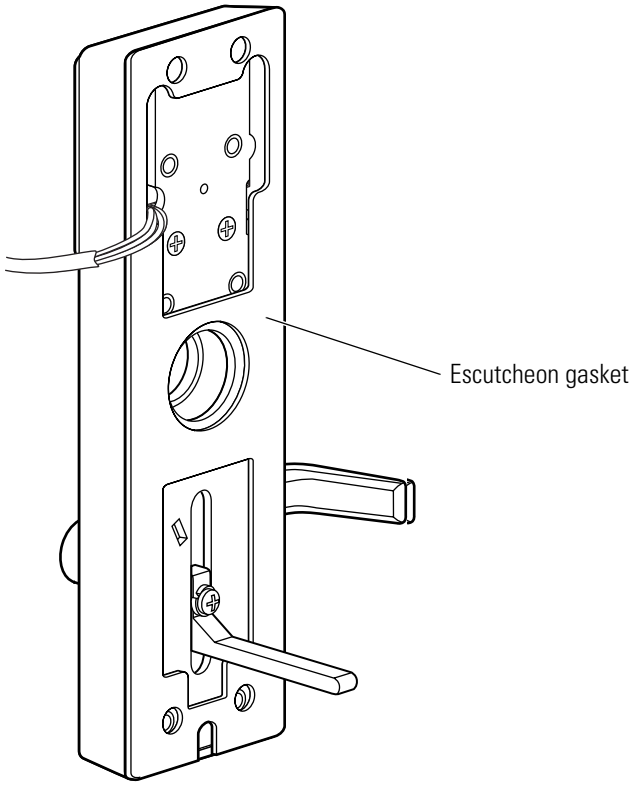


Figure 10.2 Removing and reinstalling the escutcheon gasket

Reinstalling the escutcheon gasket

1. Starting at the bottom of the gasket, peel away the protective backing a small amount at a time while unrolling the gasket into position on the escutcheon.
2. Press the gasket into place on the escutcheon. See Figure 10.2.
3. Reinstall the following parts:
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE LIFT FINGER

Each time you service the lift finger you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- lift finger screw (page 4–9).

Removing the lift finger

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3).
2. Note the orientation of the lift finger. See Figure 10.3.
3. Remove the lift finger screw and discard.
4. Remove the washer, and lift finger.

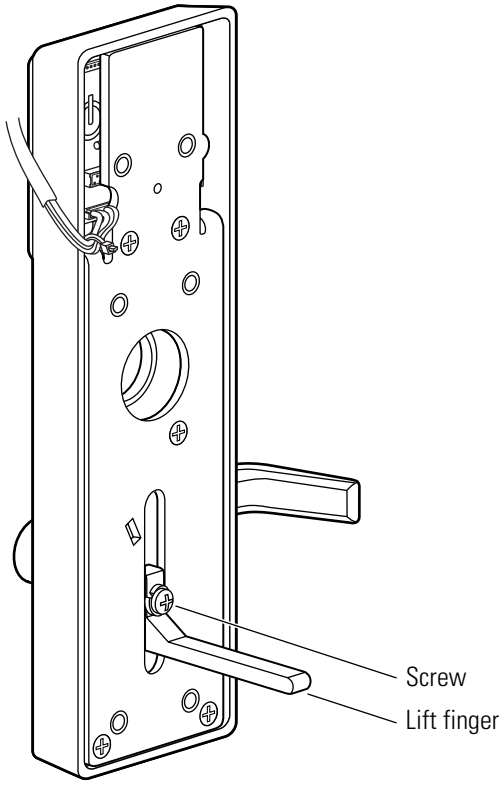


Figure 10.3 Removing and reinstalling the lift finger (Precision Hardware rim configuration shown)

Reinstalling the lift finger

1. Position the lift finger on the escutcheon in the orientation noted in step 2 on page 10–4.
2. Position the washer on the lift finger screw. Tightly secure the lift finger with the lift finger screw (25–30 lbs. torque). See Figure 10.3.
3. Reinstall the following parts:
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE MOUNTING PLATE

Each time you service the mounting plate you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9).

Removing the mounting plate

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4).
2. Cut the cable tie off the mounting plate post and discard the cable tie. See Figure 10.4.

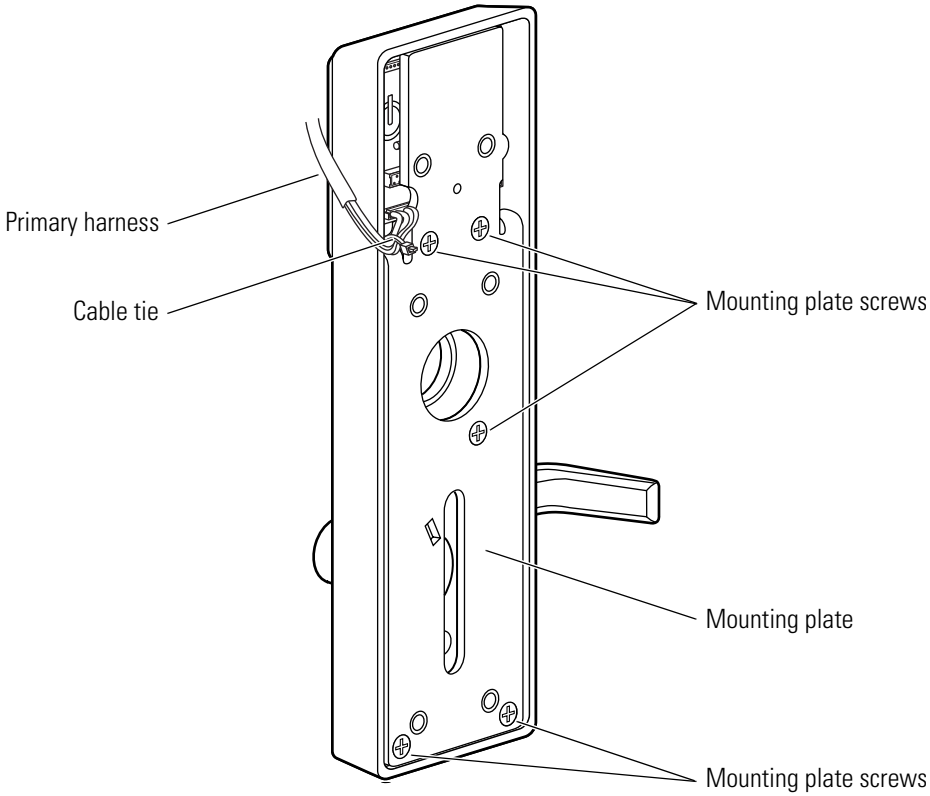


Figure 10.4 Removing and reinstalling the mounting plate

3. Remove the 5 mounting plate screws and discard.
4. Carefully remove the mounting plate from the escutcheon.

Caution

Be careful not to drop the lever return springs on the control electronics board. They can easily damage the electronics.

Reinstalling the mounting plate

1. With the posts on the mounting plate inserted in the lever return springs, slide the mounting plate into the escutcheon. See Figure Figure 10.5.

   Make sure that the locking plate fits into the slot in the mounting plate. See Figure 10.4.
2. Install the 5 new mounting plate screws.
3. Route the primary harness against the mounting plate post and secure the harness to the post with a cable tie. See Figure 10.4.
4. Reinstall the following parts:
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE LEVER RETURN SPRINGS

Each time you service the lever return springs you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9).

Removing the lever return springs

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6).
2. Remove the lever return springs from the yoke. See Figure 10.5.

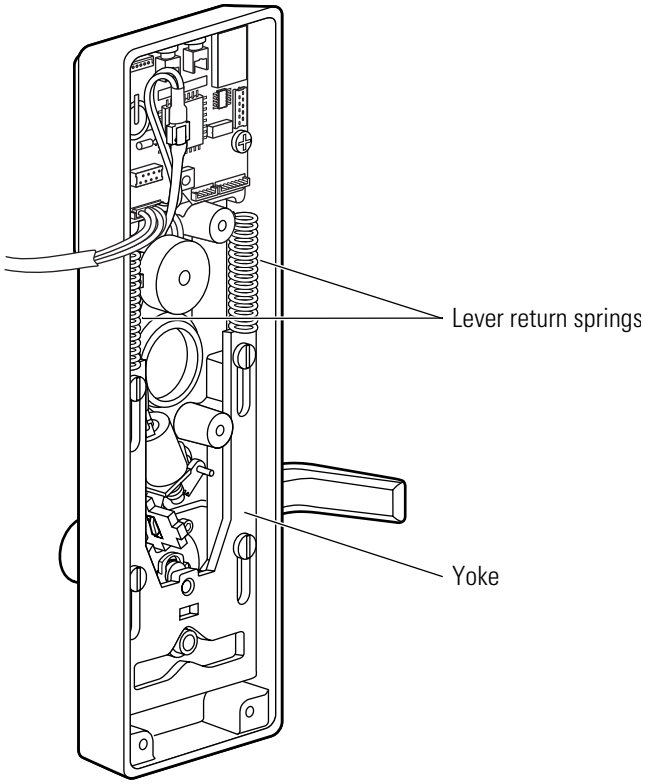


Figure 10.5 Removing and reinstalling the lever return springs escutcheon (B.A.S.I.S. shown)

Reinstalling the lever return springs

1. Install the lever return springs onto the yoke posts. See Figure 10.5.
2. Reinstall the following parts:
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE PRIMARY HARNESS

A replacement kit is available for the B.A.S.I.S. primary harness. See page 4–10. To replace a Keypad EZ primary harness, obtain a primary harness (C1444).

Each time you service the primary harness you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9)
- tape for mounting the sounder.

Caution

Before you handle the control electronics board or any component on the control electronics board, make sure that you are properly grounded using an electrostatic discharge (ESD) protection kit. Touching the control electronics board without proper grounding can damage sensitive electronic components—even if you don't notice any static discharge.

Removing the primary harness

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6).
2. Perform steps 2 through 4 starting on page 9–5.

Reinstalling the primary harness

1. Perform steps 1 through 3 starting on page 9–6.
2. Reinstall the following parts:
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE CONTROL ELECTRONICS BOARDS

Replacement kits are available for B.A.S.I.S. control electronics boards. See page 4–5. To replace a Keypad EZ control electronics board, obtain a keypad control electronics board (B80963).

Each time you service the control electronics board you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9).

Note: To determine whether a B.A.S.I.S. Lock has a B.A.S.I.S. G or B.A.S.I.S. V control electronics board, look at the label on the center of the board. B.A.S.I.S. G is labeled as BAGLKS. B.A.S.I.S. V is labeled as BA_LKS.

Removing the B.A.S.I.S. magnetic stripe control electronics board

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9).
2. Perform steps 2 and 3 on page 9–8.

Reinstalling the B.A.S.I.S. magnetic stripe control electronics board

1. Perform steps 1 through 5 on page 9–9.
2. Reinstall the following parts:
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the B.A.S.I.S. smart card control electronics board

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9).
2. Perform steps 2 through 4 starting on page 9–10.

Reinstalling the B.A.S.I.S. smart card control electronics board

1. Perform steps 1 through 5 starting on page 9–12.
2. Reinstall the following parts:
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the B.A.S.I.S. dual validation control electronics board

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9).
2. Perform steps 2 and 3 on page 9–14.

Reinstalling the B.A.S.I.S. dual validation control electronics board

1. Perform steps 1 through 5 starting on page 9–15.
2. Reinstall the following parts:
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the B.A.S.I.S. V proximity control electronics board

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9).
2. Perform steps 2 and 3 starting on page 9–16.

Reinstalling the B.A.S.I.S. V proximity control electronics board

1. Perform steps 1 through 3 on page 9–17.
2. Reinstall the following parts:
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the Keypad EZ control electronics board

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9).
2. Perform steps 2 through 4 starting on (page 9–18).

Reinstalling the Keypad EZ control electronics board

1. Perform steps 1 through 3 on page 9–20.
2. Reinstall the following parts:
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

To replace a Keypad EZ reader obtain a Keypad reader (B60325).

SERVICING THE READER ASSEMBLIES

Replacement kits are available for the reader assemblies. See page 4–4.

Each time you service the reader assembly you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9).

Removing the B.A.S.I.S. magnetic stripe reader assembly

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9)
   - electronics board (page 10–10).
2. Perform steps 2 and 3 starting on page 9–21.

Reinstalling the B.A.S.I.S. magnetic stripe reader assembly

1. Perform steps 1 and 2 on page 9–23.
2. Reinstall the following parts:
   - electronics board (page 10–10)
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the B.A.S.I.S. smart card reader assembly

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9)
   - electronics board (page 10–11).
2. Perform steps 2 and 3 starting on page 9–24.

Reinstalling the B.A.S.I.S. smart card reader assembly

1. Perform steps 1 and 2 on page 9–26.
2. Reinstall the following parts:
   - electronics board (page 10–11)
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the B.A.S.I.S. dual validation reader assembly

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9)
   - electronics board (page 10–11).
2. Perform steps 2 and 3 starting on page 9–27.

Reinstalling the B.A.S.I.S. dual validation reader assembly

1. Perform steps 1 and 2 on page 9–29.
2. Reinstall the following parts:
   - electronics board (page 10–11)
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the B.A.S.I.S. V proximity reader assembly

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9)
   - electronics board (page 10–12).
2. Perform steps 2 and 3 on page 9–30.

Reinstalling the B.A.S.I.S. V proximity reader assembly

1. Perform steps 1 and 2 on page 9–31.
2. Reinstall the following parts:
   - electronics board (page 10–12).
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

Removing the Keypad EZ reader assembly

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - primary harness (page 10–9)
   - electronics board (page 10–12).
2. Perform steps 2 and 3 on page 9–32.

Reinstalling the Keypad EZ reader assembly

1. Perform steps 1 and 2 on page 9–34.
2. Reinstall the following parts:
   - electronics board (page 10–12).
   - primary harness (page 10–9)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE MOTOR ASSEMBLY

A replacement kit is available for the motor assembly. See page 4–10.

Each time you service the motor assembly you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9)
- tape for mounting the sounder (for a B.A.S.I.S. escutcheon only).

Removing the motor assembly

1. Remove the following components:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - lever return springs (page 10–8).
2. Disconnect the motor connector from the primary harness. See Figure 10.6.

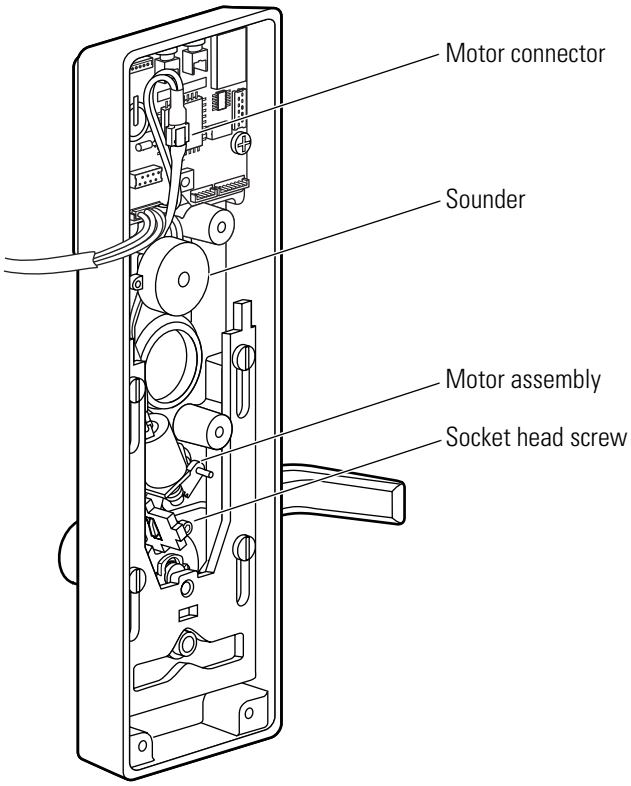


Figure 10.6 Removing the motor assembly (B.A.S.I.S.escutcheon shown)

3. *For B.A.S.I.S. escutcheons*, pry the sounder off the escutcheon using a screwdriver.
4. Using a 3/32″ hex driver, remove the socket head screw and spacer. Remove the motor assembly from the escutcheon.

Reinstalling the motor assembly

1. Rotate the gear on the motor assembly until the locking lever is as close to the screw hole as possible, as shown in Figure 10.7.

   Note: If the locking lever does not move freely as you turn the gear, gently move the locking lever into position.

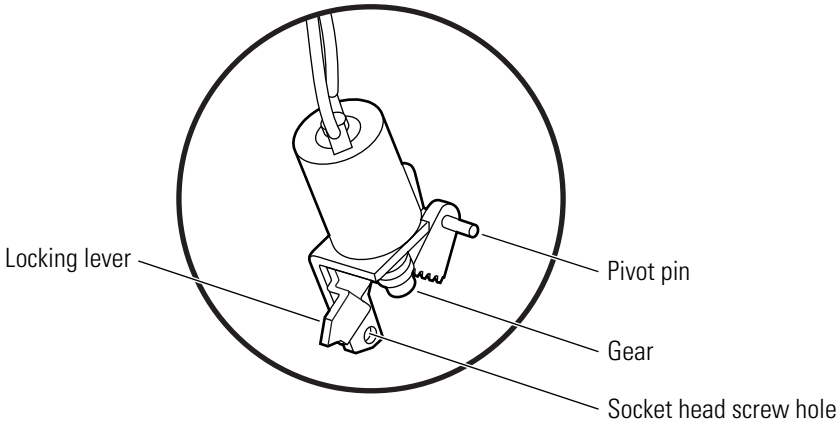


Figure 10.7 Rotating the motor assembly gear

2. Position the motor assembly in the escutcheon as shown in Figure 10.8. Make sure that:
   - the locking lever is inserted through the locking plate.
   - the motor assembly pivot pin is seated in the recess in the escutcheon.

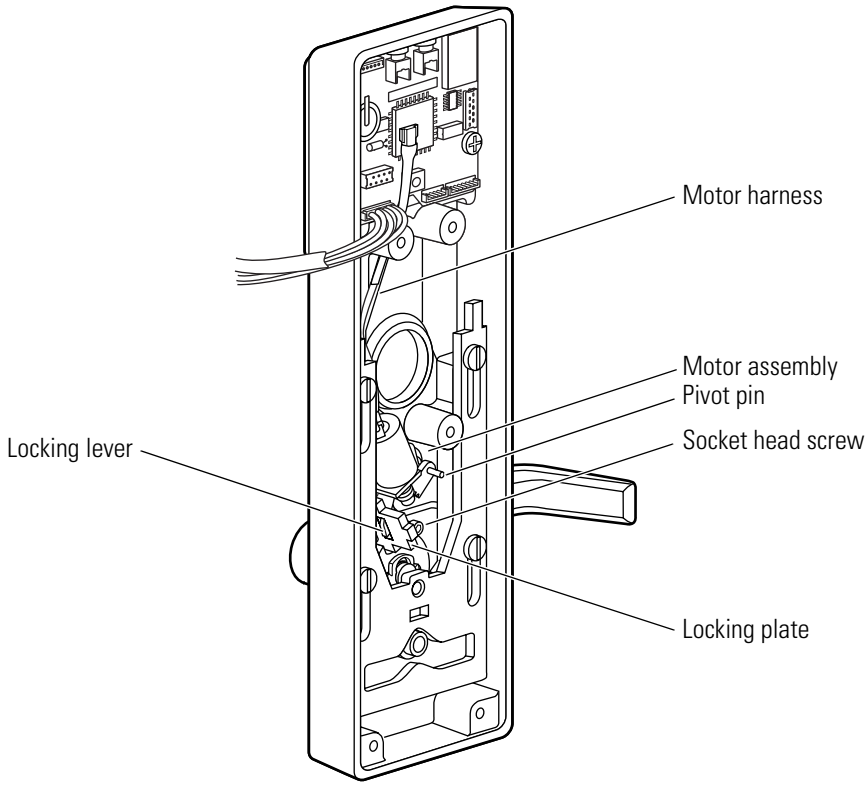


Figure 10.8 Routing the motor harness

3. Place the spacer on the socket head screw. Using a 3/32″ hex driver, reinstall the socket head screw.
4. Route the motor harness into the groove in the escutcheon, as shown in Figure 10.8.
5. *For B.A.S.I.S. escutcheons*, reinstall the sounder onto the escutcheon. See Figure 10.9.

6. Connect the motor harness to the primary harness.

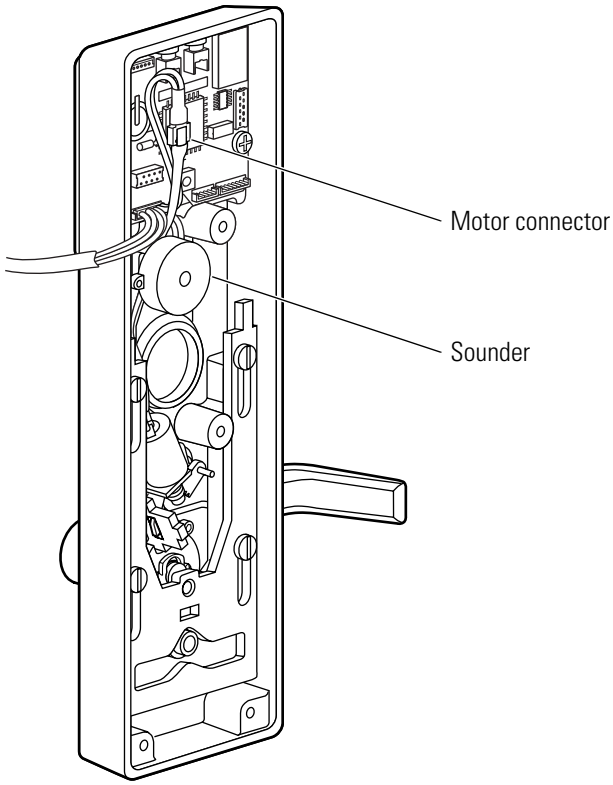


Figure 10.9 Reinstalling the motor assembly (B.A.S.I.S.escutcheon shown)

7. Reinstall the following components:
   - lever return springs (page 10–8)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE LOCKING PLATE

Each time you service the locking plate you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9).

Removing the locking plate

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - lever return springs (page 10–8)
   - motor assembly (page 10–16).
2. Slide the locking plate out of the escutcheon. See Figure 10.10.

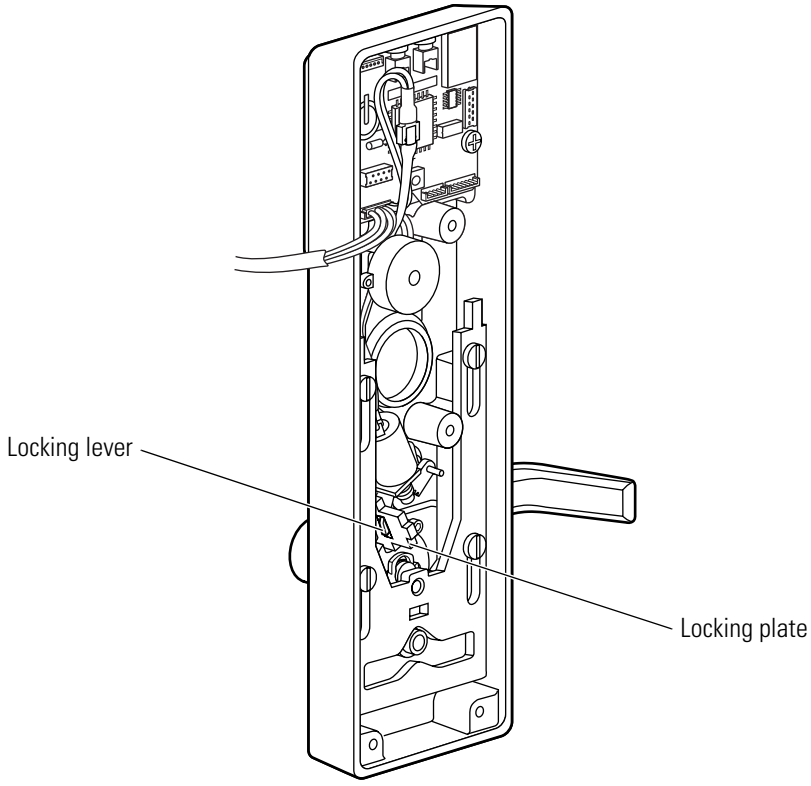


Figure 10.10 Removing and reinstalling the locking plate (B.A.S.I.S. escutcheon shown)

Reinstalling the locking plate

1. Slide the locking plate into position as shown in Figure 10.11. Make sure that the locking lever of the motor assembly is inserted through the locking plate.

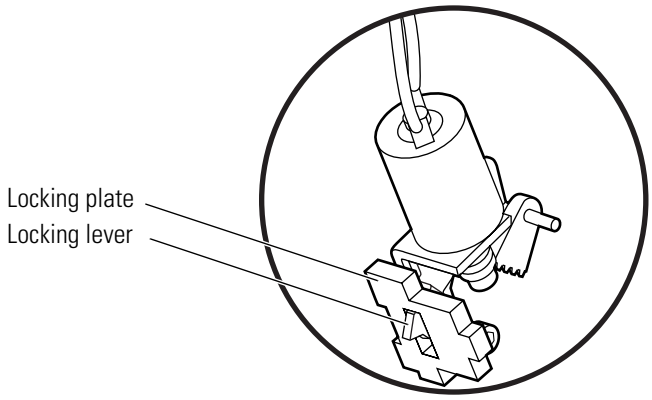


Figure 10.11 Reinstalling the locking plate

2. Reinstall the following parts:
   - motor assembly (page 10–17)
   - lever return springs (page 10–8)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE YOKE

Each time you service the yoke you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9)
- 4 shoulder screws (page 4–10).

Removing the yoke

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - lever return springs (page 10–8).
2. Unscrew the 4 shoulder screws and discard. See Figure 10.12.
3. Remove the yoke from the escutcheon.

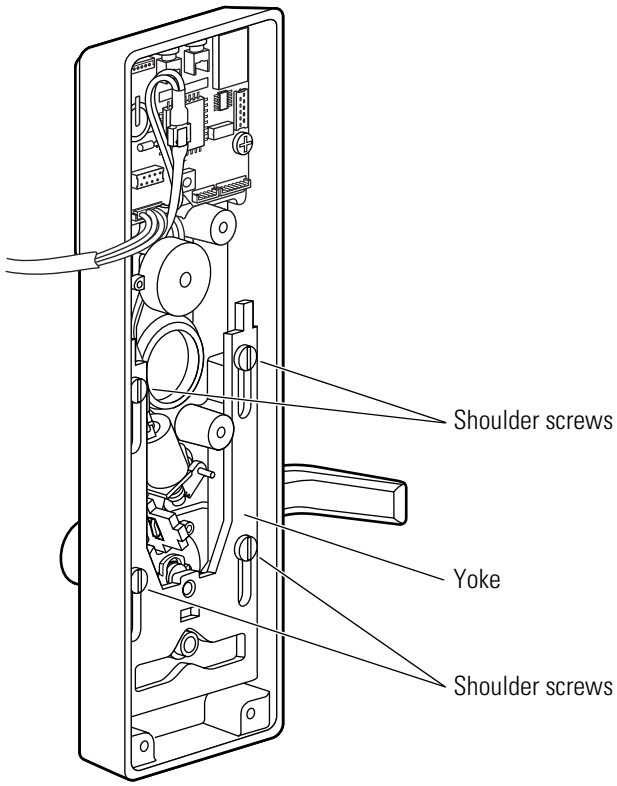


Figure 10.12 Removing and reinstalling the yoke (B.A.S.I.S. escutcheon shown)

Reinstalling the yoke

1. Position the yoke in the escutcheon with the threaded nut down.
2. Apply Lubriplate® GR-132 grease or an equivalent quality petroleum around the slots on the face of the yoke.
3. Tightly secure the yoke to the escutcheon using the 4 new shoulder screws (20–25 lbs. torque). See Figure 10.12.
4. Reinstall the following parts:
   - lever return springs (page 10–8)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE BEAM AND BEAM ROLLER

Each time you service the beam or beam roller you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9)
- 4 shoulder screws (page 4–10).

Removing the beam and beam roller

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - lever return springs (page 10–8)
   - yoke (page 10–22).
2. Remove the c-clip from the lever spindle. See Figure 10.13.

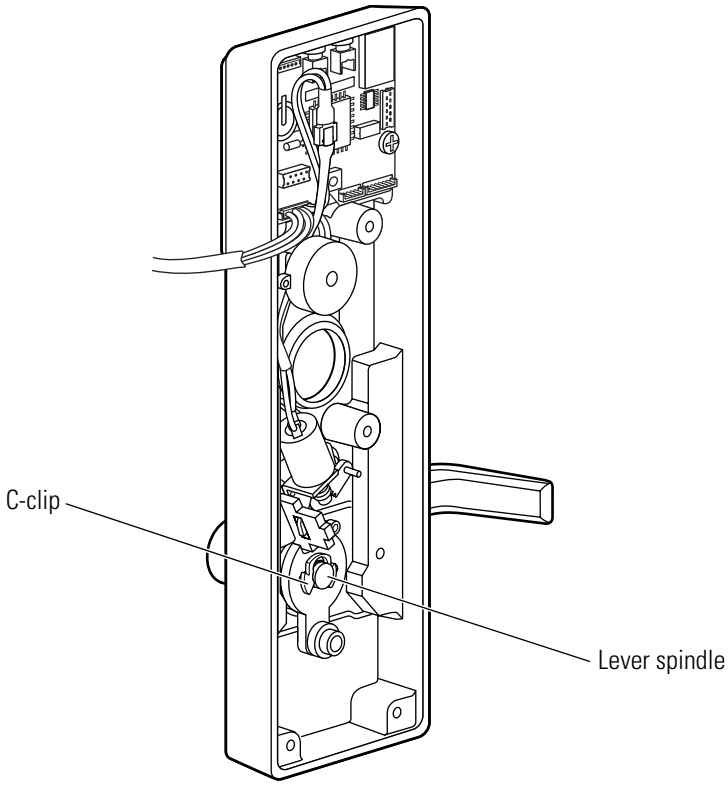


Figure 10.13 Removing and reinstalling the c-clip (B.A.S.I.S.escutcheon shown)

3. Remove the beam and beam roller from the lever spindle. See Figure 10.14.

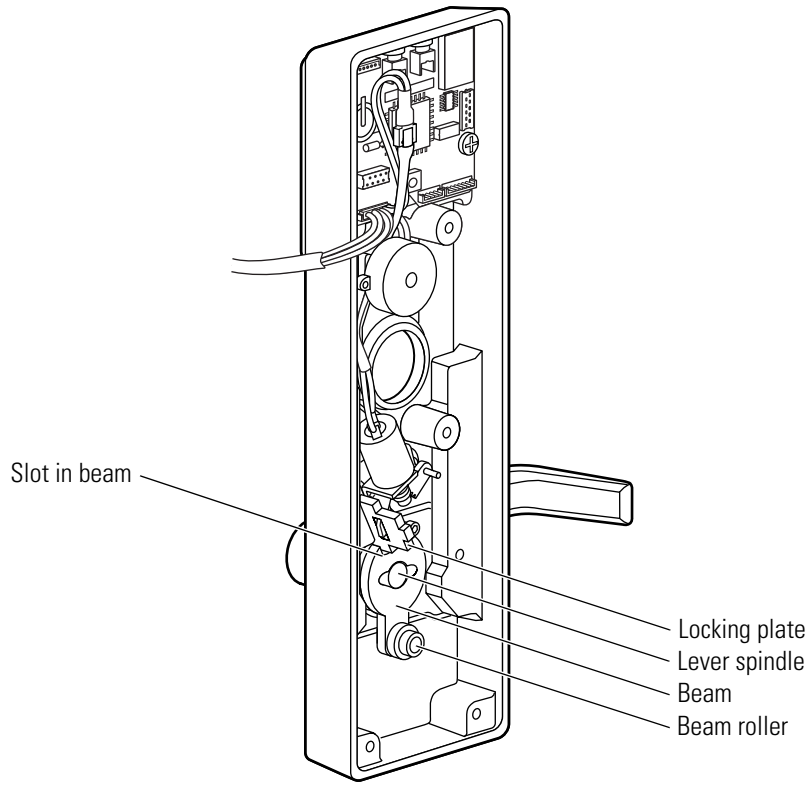


Figure 10.14 Removing and reinstalling the beam and beam (B.A.S.I.S.escutcheon shown)

Reinstalling the beam and beam roller

1. Place the beam on the lever spindle so that the slot in the beam aligns with the locking plate. See Figure 10.14.
2. Reinstall the c-clip onto the lever spindle. The orientation of the clip does not matter. See Figure 10.13.
3. Place the beam roller on the beam.
4. Reinstall the following parts:
   - yoke (page 10–23)
   - lever return springs (page 10–8)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

SERVICING THE LEVER ASSEMBLY

Each time you service the lever assembly you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9)
- 4 shoulder screws (page 4–10).

Removing the lever assembly

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - lever return spring (page 10–8)
   - yoke (page 10–22)
   - beam and beam roller (page 10–24).

2. Remove the lever from the front of the escutcheon. See Figure 10.15.

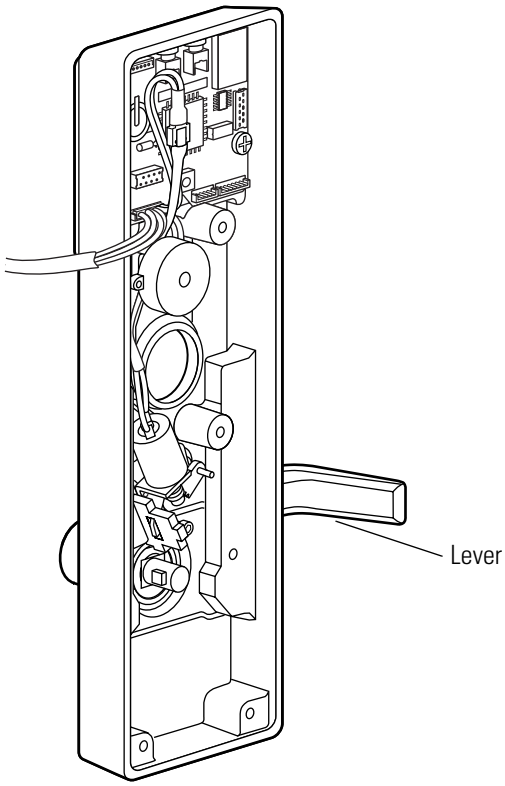


Figure 10.15 Removing and reinstalling the lever assembly (B.A.S.I.S. escutcheon shown)

Reinstalling the lever assembly

1. Make sure that the shear pin is positioned on the lever so that the head faces the opposite direction of the lever handle. See Figure 10.16.
2. Insert the lever through the escutcheon, positioning the lever so its handle will point toward the door hinges. See Figure 10.15.
3. Reinstall the following parts:
   - beam and beam roller (page 10–25)
   - yoke (page 10–23)
   - lever return spring (page 10–8)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon (page 8–14).

SERVICING THE SHEAR PIN

Replacements kits are available for shear pins. See page 4–10.

Each time you service the shear pin you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9)
- 4 shoulder screws (page 4–10).

Removing the shear pin

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - lever return spring (page 10–8)
   - yoke (page 10–22)
   - beam and beam roller (page 10–24)
   - lever assembly (page 10–26).
2. Remove the shear pin from the lever. See Figure 10.16.

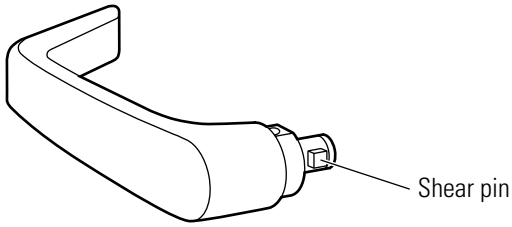


Figure 10.16 Removing and reinstalling the shear pin

Reinstalling the shear pin

1. Insert the shear pin into the lever, making sure that the shear pin is positioned in the lever so that the head faces the opposite direction of the lever handle. See Figure 10.16.
2. Reinstall the following parts:
   - lever assembly (page 10–27)
   - beam and beam roller (page 10–25)
   - yoke (page 10–23)
   - lever return spring (page 10–8)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon in the door (page 8–14).

CHANGING THE HANDING

Each time you change the handing you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie
- lift finger screw (page 4–9)
- mounting plate screws (page 4–9)
- 4 shoulder screws (page 4–10).

Note: When changing the handing for Precision Hardware mortise applications, you must replace the lift finger with the correct lift finger for the desired handing. To order the left-hand lift finger, use part number C64576. To order the right-hand lift finger, use part number C64568.

1. Remove the following parts:
   - escutcheon from the door (page 8–13)
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6)
   - lever return springs (page 10–8)
   - yoke (page 10–22)
   - beam and beam roller (page 10–24)
   - lever assembly (page 10–26).

2. Make sure that the shear pin is positioned in the lever so that the head faces the opposite direction of the lever handle. Then insert the lever through the escutcheon, positioning the lever so its handle will point toward the door hinges. See Figure 10.17.

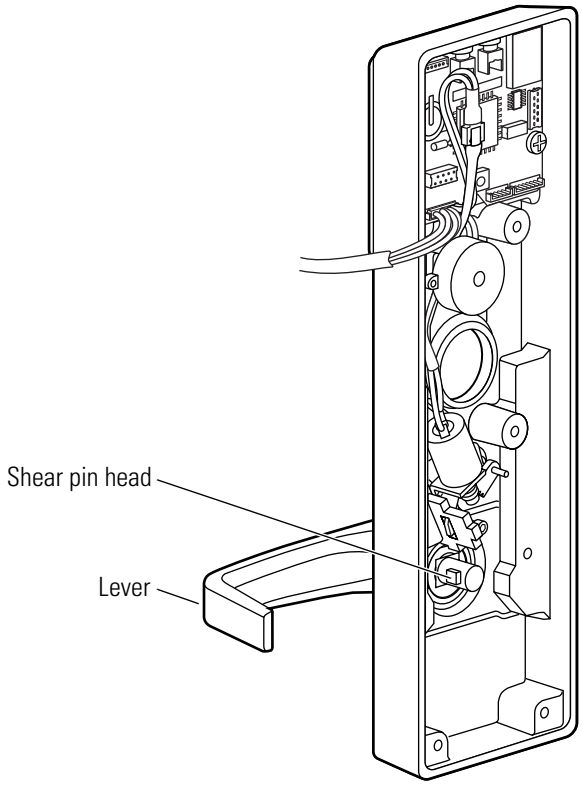


Figure 10.17 Changing the handing

3. Reinstall the following parts:
   - beam and beam roller (page 10–25)
   - yoke (page 10–23)
   - lever return springs (page 10–8)
   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2)
   - escutcheon on the door (page 8–14).

11 MAINTENANCE

This chapter includes instructions for performing basic maintenance for standard Electronic Stand-Alone Locks and for Electronic Stand-Alone Exit Hardware Trim.

If you need to…	See…
Replace the B.A.S.I.S. backup battery	page 11–2
Replace or upgrade the battery pack	page 11–4
Add key override sensing to standard B.A.S.I.S. Mortise Locks and B.A.S.I.S. Locks with V Series mortise cases	page 11–10
Perform diagnostics for a B.A.S.I.S. Lock using a PDA	page 11–13

Note: When servicing components, always test that the lock works properly when you're finished.

REPLACING THE B.A.S.I.S. BACKUP BATTERY

Removing the backup battery

A replacement kit is available for the backup battery. See page 4–6.

1. *For standard locks,* remove the inside and outside escutcheons from the door. For mortise lock instructions, see page 5–6. For cylindrical lock instructions, see page 7–5.

   For exit hardware trim, remove the B.A.S.I.S. escutcheon from the door. See page 8–13.

2. *For standard locks,* remove the gasket from the outside escutcheon to expose the control electronics board and discard the gasket.

   For exit hardware trim, remove the following parts from the escutcheon to expose the control electronics board:

   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6).

3. Remove the backup battery from the battery socket.

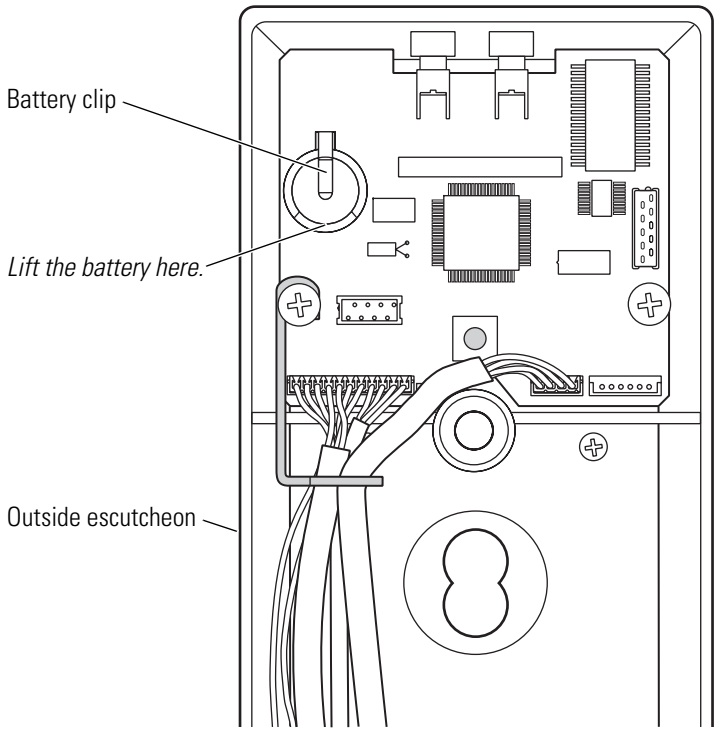


Figure 11.1 Removing the B.A.S.I.S. backup battery (escutcheon for standard mortise lock shown)

Reinstalling the backup battery

1. Slide the backup battery under the clip and into position in the battery socket.

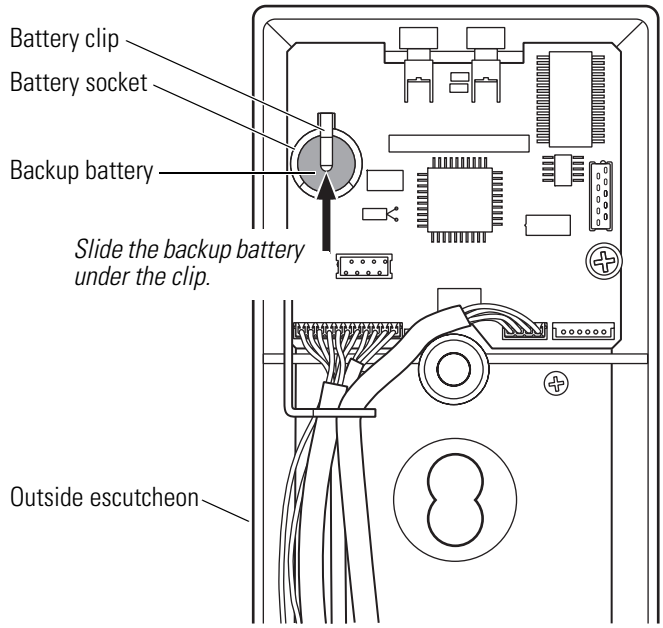


Figure 11.2 Reinstalling the B.A.S.I.S. backup battery (escutcheon for standard mortise lock shown)

2. *For standard locks,* peel away the protective backing from the edge of the escutcheon gasket and slide the gasket onto the upper escutcheon post. Press the gasket into place so the electronics board is covered.

   For exit hardware trim, reinstall the following parts in the escutcheon:

   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2).

3. *For standard locks,* reinstall the inside and outside escutcheons on the door. For mortise lock instructions, see page 5–10. For cylindrical lock instructions, see page 7–9.

   For exit hardware trim, reinstall the escutcheon on the door. See page 8–14.

REPLACING OR UPGRADING THE BATTERY PACK

To replace the four-cell battery pack for a standard Electronic Stand-Alone Lock or for EX Series Exit Hardware Trim, obtain part number B60726.

An eight-cell battery pack also is available for use with standard Electronic Stand-Alone Locks. To replace the eight-cell battery pack in a standard lock, obtain part number B62101. An upgrade kit is available to upgrade a standard lock with a four-cell battery pack to an eight-cell battery pack. See page 4–6.

Average expected battery life

Refer to the table below for a description of the average expected battery life of an Electronic Stand-Alone Lock based on its reader type, chassis type, and battery pack type.

	Standard battery pack				Extended battery pack†			
	Cylindrical		Mortise		Cylindrical		Mortise	
Reader type	Cycles	Years	Cycles	Years	Cycles	Years	Cycles	Years
Magnetic stripe	65,000	2 – 5	130,000	3 – 5	130,000	3 – 5	250,000	4 – 5
Smart card	62,000	2 – 5	110,000	3 – 5	120,000	3 – 5	225,000	4 – 5
Proximity	50,000	2 – 3.5	75,000	2 – 3.5	95,000	2 – 5	145,000	3 – 5
Dual validation	65,000	2 – 5	130,000	3 – 5	130,000	3 – 5	250,000	4 – 5

†. Not available for Exit Hardware Trim.

Removing the battery pack for a standard lock

1. Use a T15 TORX bit driver to remove the security screw from the battery door. See Figure 11.3.
2. Open the battery door and remove it from the escutcheon.

3. Remove the battery pack from the battery compartment.

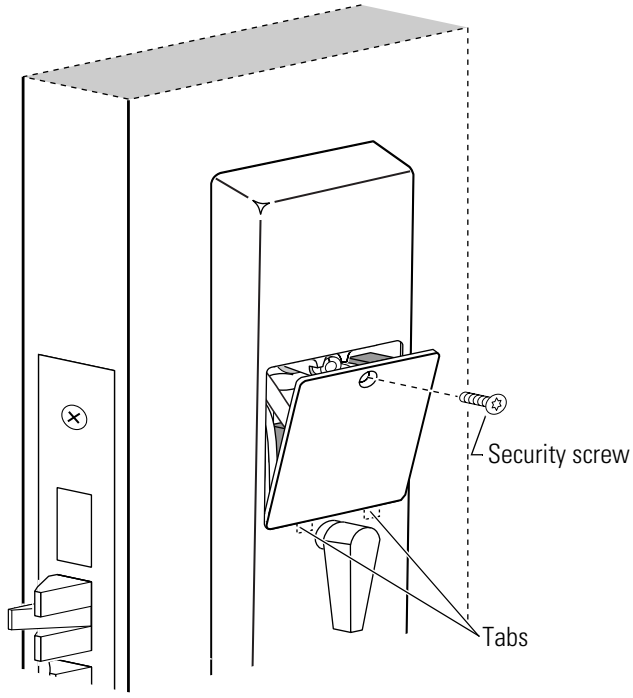


Figure 11.3 Removing the battery door (four-cell door shown)

4. Disconnect the battery pack from the battery connector on the wire harness. See Figure 11.4.

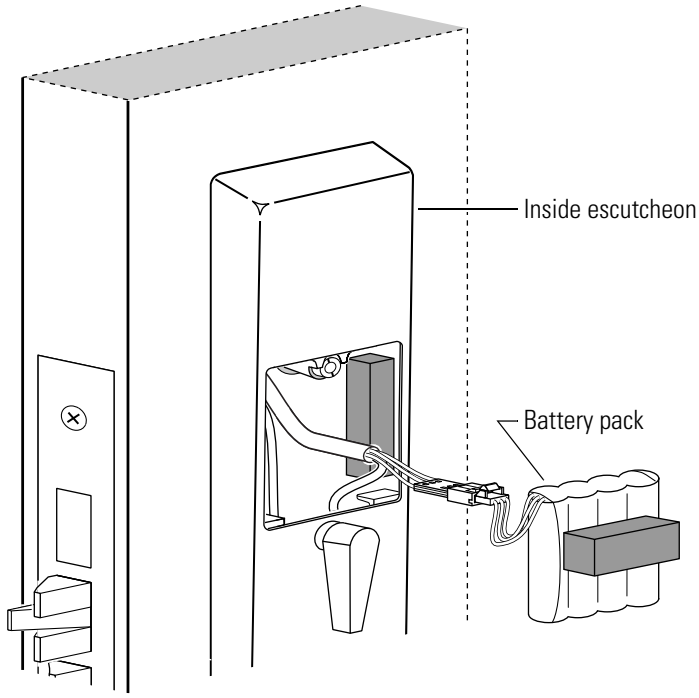


Figure 11.4 Removing the battery pack (four-cell pack shown)

Reinstalling the battery pack for a standard lock

1. Connect the battery pack to the battery connector on the wire harness inside the battery compartment. See Figure 11.5.

   Note: The battery connection has 3 wires and 3 pins. The wire colors are:

   - red with white stripe
   - white
   - black with white stripe.

Caution

When connecting the battery pack, make sure:

- *there are no loose wire connections where the wires are inserted into the connectors*
- *the connectors are firmly mated.*

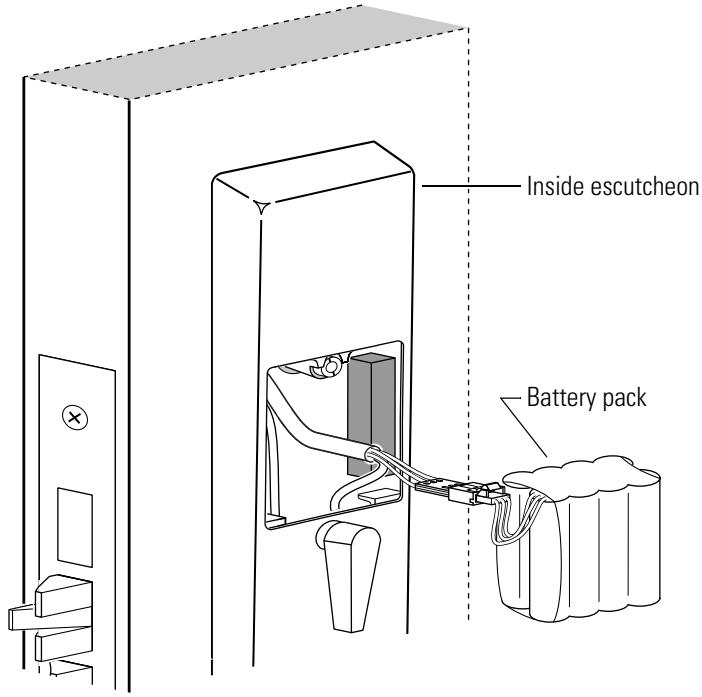


Figure 11.5 Reinstalling the battery pack (eight-cell pack shown)

2. Place the battery pack inside the battery compartment.

   Note: For the four-cell battery pack, position the battery so that the foam will face the battery door.

Caution

When routing the battery wires, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.

3. Making sure that the battery door does not pinch any wires, insert the tabs of the battery door into its mating slots and swing the door closed.
4. Use a T15 TORX bit driver to secure the battery door with the security screw. Tighten firmly.

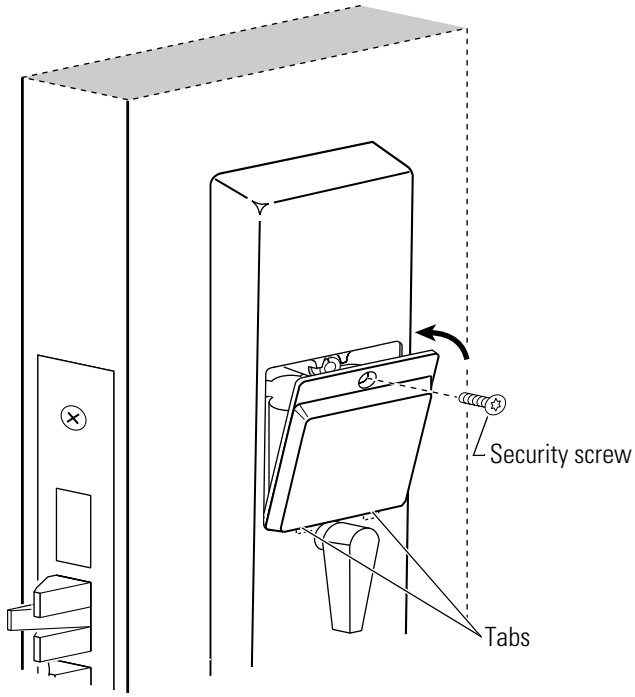


Figure 11.6 Reinstalling the battery door (eight-cell door shown)

Removing the battery pack for exit hardware trim

1. Use a T15 TORX driver to remove the security screws from the battery cover. See Figure 11.7.
2. Remove the battery cover from the battery bracket.

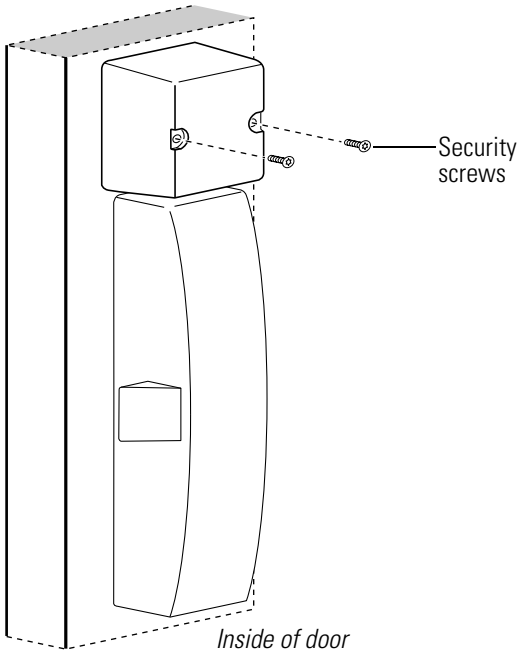


Figure 11.7 Removing and reinstalling the battery cover on the battery bracket

3. Remove the battery pack from the holder inside the battery bracket. See Figure 11.8.

   Note: You might need to cut a cable tie if one was used to dress the wire harness inside the battery bracket.

4. Disconnect the battery pack from the battery connector on the wire harness.

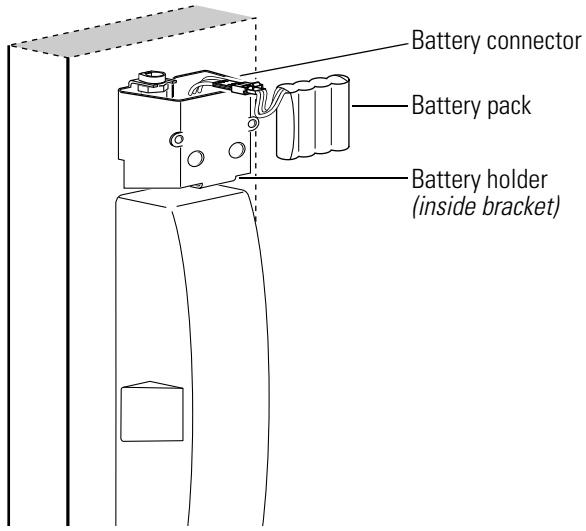


Figure 11.8 Removing and reinstalling the battery pack (B.A.S.I.S.Exit Hardware Trim shown)

Reinstalling the battery pack for exit hardware trim

Note: Replacement battery packs are shipped with foam attached, but foam is not needed for EX Series Exit Hardware Trim. Remove and discard the foam before installing the battery pack.

1. Connect the battery pack to the battery connector on the wire harness as shown in Figure 11.8.

   Note: The battery connector has 3 wires and 3 pins. The wire colors are:

   - red with white stripe
   - white
   - black with white stripe.

Caution

When connecting the battery pack, make sure there are no loose wire connections where the wires are inserted into the connectors and the connectors are firmly mated.

2. Place the battery pack in the holder inside the battery bracket and dress the wire harness inside the bracket.

Caution

Make sure you do not damage the sleeving on the battery pack. Doing so may cause the batteries to be drained.

3. *If reinstalling with a surface rod device*, dress the wire harness inside the bracket to the left of the rod so that the harness will not interfere with the movement of the rods.

   We recommend that you loosely coil the harness and use a cable tie to secure the coil. To avoid damaging the harness, do not put any sharp bends in it or flex it close to the connectors.

Caution

Failure to dress the wire harness away from the rod could damage the wire harness, causing the lock's electronics to not work properly.

4. Making sure that the battery cover does not pinch any wires, place the cover over the bracket.
5. Use a T15 TORX bit driver to secure the battery compartment cover with the security screws. Tighten firmly. See Figure 11.7.

ADDING KEY OVERRIDE SENSING TO STANDARD B.A.S.I.S. MORTISE LOCKS

You can add key override sensing to a B.A.S.I.S. FV or EV function Mortise Lock that was:

- ordered without the key override sensing option, *or*
- upgraded from a V Series Mortise lock.

Note: For a description of lock functions, see page 2–2.

Order the following parts and perform the tasks below:

- sensor harness kit, part number 1833728
- sensor module with deadbolt and key override kit (FV function), part number 1833885, *or*
- sensor module with key override kit (EV function), part number 1833927.

1. Remove the inside and outside trim from the door (page 5–6).
2. If the lock has a sensor harness, remove it. See Figure 11.9. For complete instructions, see page 9–4.
3. Connect the new sensor harness. For complete instructions, see page 9–4.

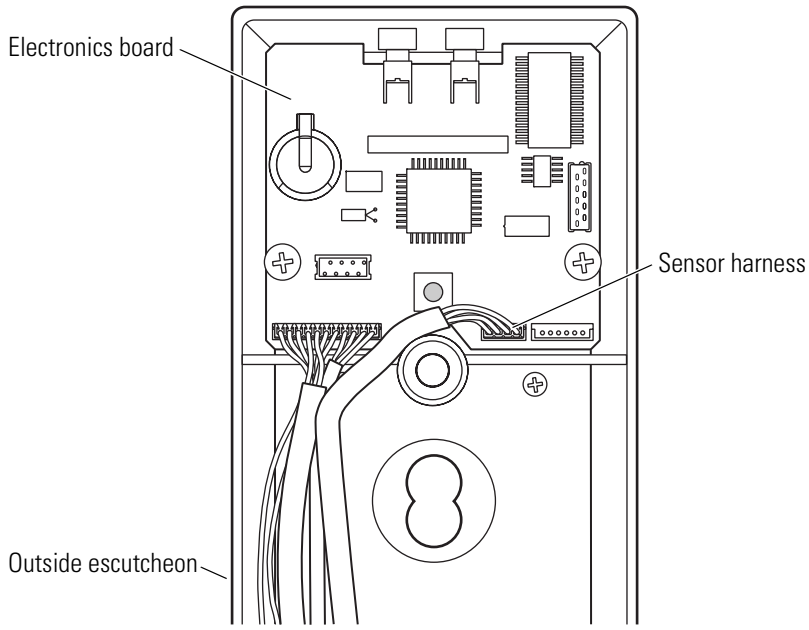


Figure 11.9 Connecting the sensor harness to the electronics board

4. Remove and open the mortise case. For complete instructions, see page 6–2.
5. Remove the latch lever. See Figure 11.11.

6. *For B.A.S.I.S. mortise cases*, if the mortise case has a sensor module, remove it. For complete instructions, see page 6–17.

   For V Series mortise cases, loosen the two mounting screws on the sensor switch assembly. Remove the assembly. See Figure 11.10.

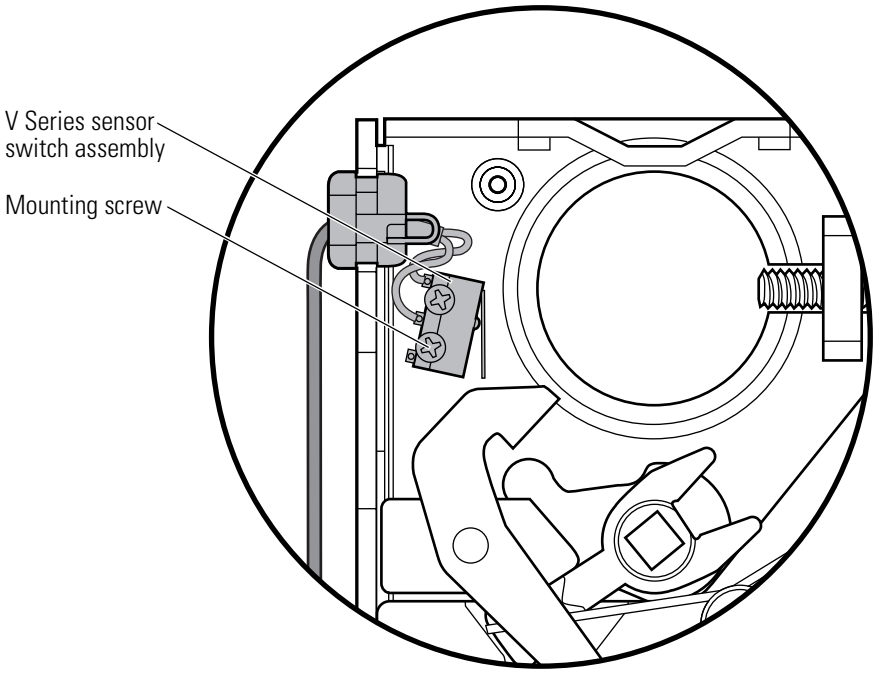


Figure 11.10 Removing the V Series sensor switch assembly

7. Install the sensor module in the mortise case. For complete instructions, see page 6–17.

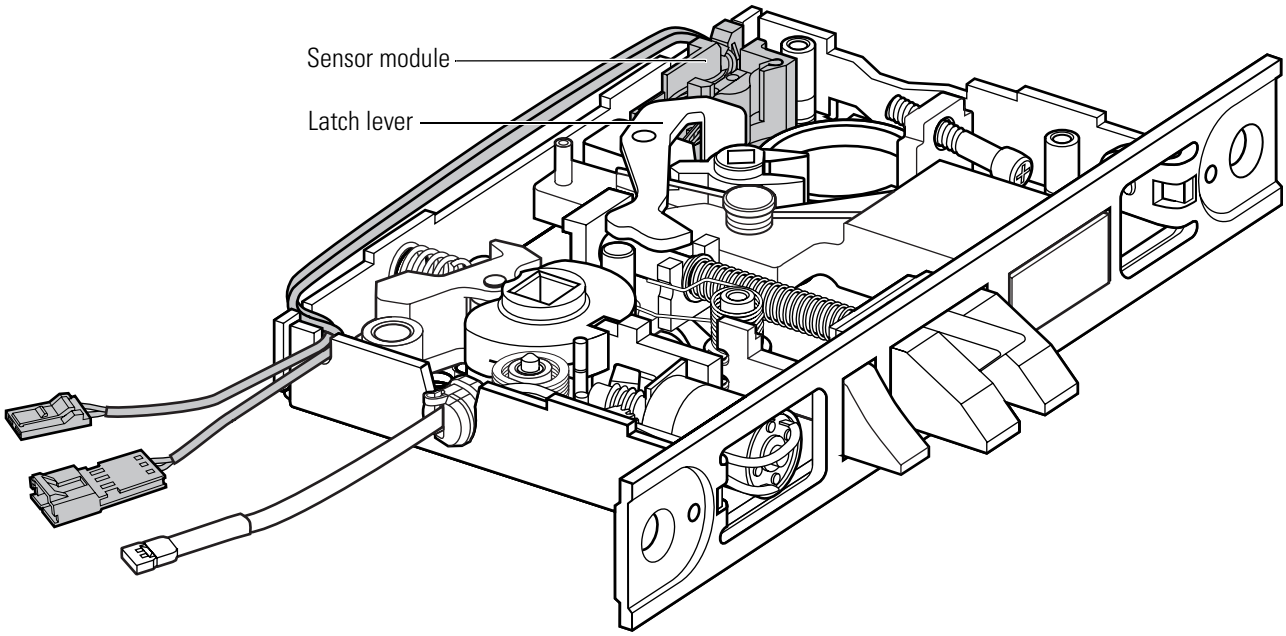


Figure 11.11 Positioning the sensor module in the mortise case (FV function, LH case shown)

8. Reinstall the latch lever.
9. Close and reinstall the mortise case (page 6–3).
10. Reinstall the inside and outside escutcheons on the door (page 5–10).

PERFORMING DIAGNOSTICS USING A PDA

Diagnostics overview

You can use B.A.S.I.S. Transport to view diagnostics information for a standard B.A.S.I.S. Lock or B.A.S.I.S. EX Series Exit Hardware Trim. Figure 11.12 shows an example of the diagnostics information provided. The table below describes each of the fields in the Diagnostics window.

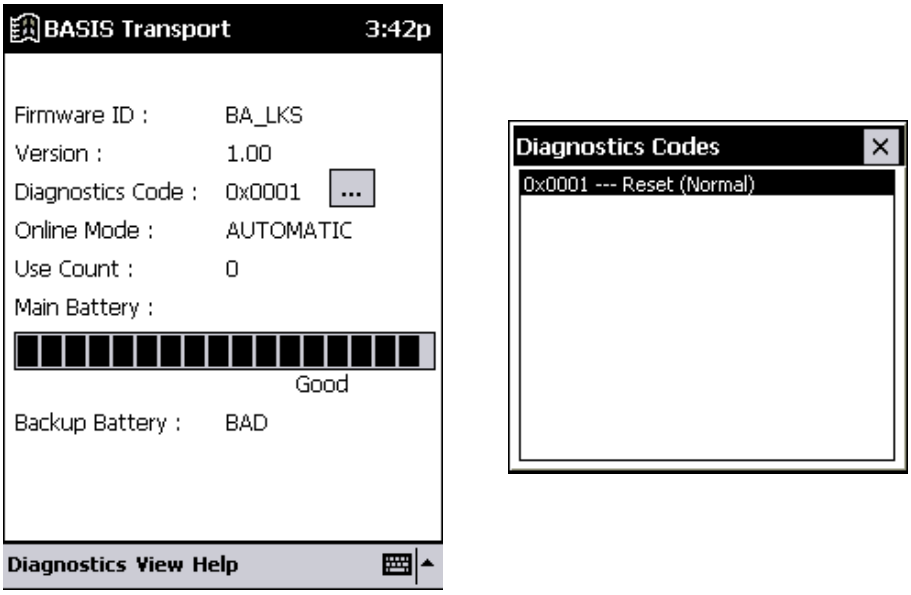


Figure 11.12 B.A.S.I.S. Transport Diagnostics window and Diagnostics Codes window

This field	Shows
Firmware ID	ID indicating the type of firmware in the lock. Technical support personnel may ask you to provide this information. The B.A.S.I.S. G firmware ID is BAGLKS. The B.A.S.I.S. V firmware ID is BA_LKS.
Version	Version number of the lock's firmware. Technical support personnel may ask you to provide this information.
Diagnostics Code	Hexadecimal number indicating firmware conditions, such as firmware resets, that have occurred at the lock since the diagnostics code was last cleared. The code 0x00 means no conditions have occurred. To view the meaning of the code, tap the more button (...). The Diagnostics Codes window shows each active diagnostics code and its meaning. See Figure 11.12. Tap the close button (X) to close this window. Technical support personnel may ask you to provide this information. To clear the diagnostics code, see page 11–20.

This field	Shows
Online Mode	Whether the lock is under timezone control (Automatic) or set to a specific mode, such as Locked or Unlocked. For more information, see *Changing a lock's online mode* on page 11–18.
Use Count	Number of times access was granted since the use count was last reset. To reset the use count, see page 11–19.
Main Battery	Current power level of the lock's battery pack. No shading in the status bar indicates an Alarm condition. The batteries are dead and must be replaced. If the shading falls within the Warning range, the power level is 10% or lower. You should replace the batteries soon. If the shading falls within the Good range, the power level is between 10% and 100%.
Backup Battery	Current power level of the lock's coin cell battery, used to back up the lock's memory if the main battery pack dies or is disconnected. If the backup battery is Bad, you should replace it. See page 11–2.

Viewing diagnostics information

1. Connect the PDA to a B.A.S.I.S. Lock.
   a. Connect the serial cable to the PDA.
   b. Connect the serial cable to the programming cable.
   c. Connect the programming cable to the lock's communication port. The connector snaps into place.

      Note 1: For standard locks, the communication port is located in the bottom of the outside escutcheon. See Figure 11.13.

      Note 2: For exit hardware trim, the communication port is located in the top of the battery bracket. See Figure 11.14. You must remove the battery cover to access the communication port. See page 11–2.

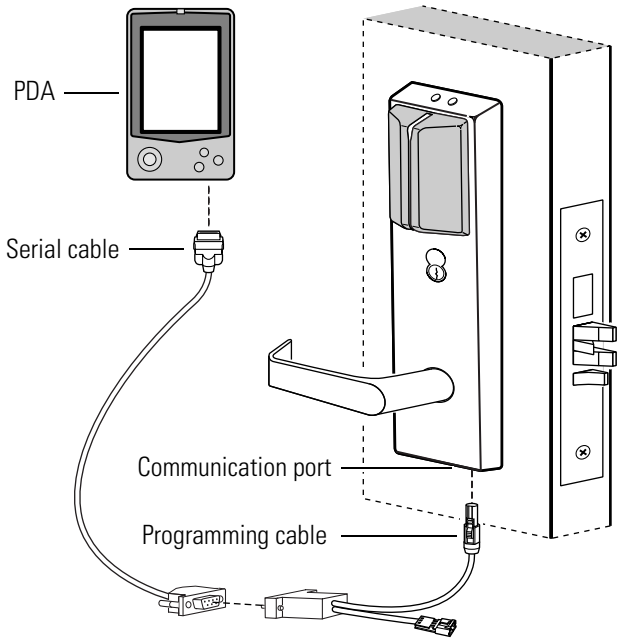


Figure 11.13 Connecting the PDA to a standard B.A.S.I.S. Lock

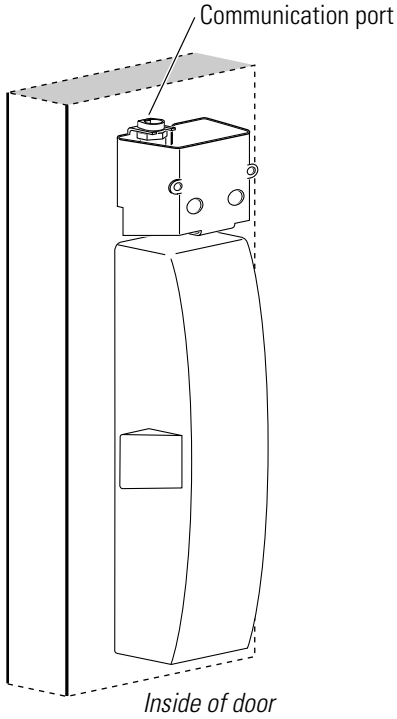


Figure 11.14 Locating the communication port for B.A.S.I.S. EX Series Exit Hardware Trim

2. Start B.A.S.I.S. Transport.

   On the PDA, tap Start, then Programs, then BAS, then Transport.

   The Main window appears, as shown in Figure 11.15.

Figure 11.15 Starting B.A.S.I.S. Transport

3. *From the B.A.S.I.S. Transport Main window on the PDA*, tap View, then Diagnostics.

   The Diagnostics window appears, with the fields blank.

4. Tap Diagnostics, then Connect.

   The Login window appears.

5. Enter the lock's password in the Enter Password field.

   For instructions to use the PDA's virtual keyboard, see the documentation provided with the PDA.

   Note: The password for a lock is the password programmed for the reader configuration's access control panel. You must enter the password exactly as it was entered in the Password field on the Offline Lock form in the Access Panels folder. Capitalization must be the same.

6. Tap OK.

   A message appears stating, "Attempting login... Please swipe a card...".

7. Use the temporary operator card to activate the lock.

   The diagnostics information appears on the PDA, as shown in Figure 11.12 on page 11–13.

Note: To perform other activities while connected to the lock, see:

- *Changing a lock's online mode* on page 11–18
- *Unlocking a door temporarily* on page 11–19
- *Resetting the use count* on page 11–19
- *Clearing the diagnostics code* on page 11–20.

8. When you have finished using diagnostics features, tap Diagnostics, then Disconnect.

   The PDA closes communications with the lock.

9. To return to the Main window, tap View, then Main.
10. To disconnect the PDA from the lock, press the button on the programming cable connector and unplug the programming cable from the lock's communication port. See Figure 11.16.

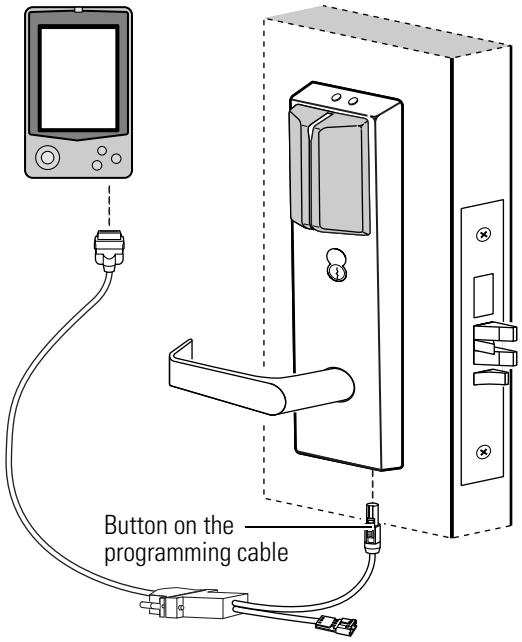


Figure 11.16 Disconnecting the programming cable from a standard B.A.S.I.S. Lock

Changing a lock's online mode

When a B.A.S.I.S. Lock's mode of operation is determined by its programming, the diagnostics information for the lock indicates that the lock's "online mode" is Automatic. In effect, the lock is under timezone control. For information about defining timezones for a lock, see the *B.A.S.I.S. System Administration User Guide*.

You can use the PDA to select a specific online mode of operation for a lock and override timezone control. The selected mode remains in effect until you restore the lock to timezone control by setting the online mode to Automatic.

For example, during an emergency you might set a lock's online mode to Unlocked so that emergency personnel can access the room. When the emergency is over, you can set the lock's online mode to Automatic to restore timezone control.

The following online modes are available:

- Automatic. The lock is under timezone control.
- Card. Any valid card in the lock's database can access the lock.
- Card and PIN. Any valid card and PIN combination programmed in the lock's database can access the lock.
- Card or PIN. Any valid card or PIN programmed in the lock's database can be used to access the lock.
- Facility Code. Any card or PIN with a valid facility code can access the lock.
- Locked. The door is locked. All cards and PINs are denied access.
- Unlocked. The door is unlocked.

To change a lock's online mode, perform these steps:

1. *If you are already viewing diagnostics information for the lock*, go to step 2.

   If you are not viewing diagnostics information for the lock, perform step 1 through step 7 on page 11–14.

2. *From the B.A.S.I.S. Transport Diagnostics window on the PDA*, tap Diagnostics, then Set Online Mode, then the mode that you want. See Figure 11.12.

   A confirmation message appears.

3. Select OK.
4. When you have finished using diagnostics features, perform step 8 through step 10 on page 11–17.

Unlocking a door temporarily

You can use the PDA to unlock a door for the default duration programmed for a B.A.S.I.S. Lock. This feature is useful when you need to access the inside of the door to replace the lock's batteries or perform other maintenance for the lock.

To unlock a door temporarily, perform these steps:

1. *If you are already viewing diagnostics information for the lock*, go to step 2.

   If you are not viewing diagnostics information for the lock, perform step 1 through step 7 on page 11–14.

2. *From the B.A.S.I.S. Transport Diagnostics window on the PDA* (Figure 11.12 on page 11–13), tap Diagnostics, then Unlock Once.

   A confirmation message appears asking, "Unlock once?"

3. Select OK.

   The lock unlocks for the default duration programmed for the lock, letting you open the door.

4. When you have finished using diagnostics features, perform step 8 through step 10 on page 11–17.

Resetting the use count

Every B.A.S.I.S. Lock keeps a count of times access is granted to a card or PIN since the use count was last reset. You can use this count to track how often a lock is used during a selected time frame.

To reset the use count for a lock, perform these steps:

1. *If you are already viewing diagnostics information for the lock*, go to step 2.

   If you are not viewing diagnostics information for the lock, perform step 1 through step 7 on page 11–14.

2. *From the B.A.S.I.S. Transport Diagnostics window on the PDA* (Figure 11.12 on page 11–13), tap Diagnostics, then Reset, then Use Count.

   A confirmation message appears asking, "Reset use count?"

3. Select OK.

   The lock's use count is reset to 0.

4. When you have finished using diagnostics features, perform step 8 through step 10 on page 11–17.

Clearing the diagnostics code

The diagnostics code for a B.A.S.I.S. Lock indicates firmware conditions, such as firmware resets, that have occurred at the lock since the diagnostics code was last cleared. For more information, see page 11–13.

To clear a lock's diagnostics code, perform these steps:

1. *If you are already viewing diagnostics information for the lock*, go to step 2.

   If you are not viewing diagnostics information for the lock, perform step 1 through step 7 on page 11–14.

2. *From the B.A.S.I.S. Transport Diagnostics window on the PDA* (Figure 11.12 on page 11–13), tap Diagnostics, then Reset, then Diagnostics Code.

   A confirmation message appears asking, "Reset diagnostics code?"

3. Select OK.

   The diagnostics code is reset to 0x0000.

4. When you have finished using diagnostics features, perform step 8 through step 10 on page 11–17.

12 TROUBLESHOOTING

This chapter contains instructions for troubleshooting problems for standard Electronic Stand-Alone Locks and Electronic Stand-Alone Exit Hardware Trim.

If you need to…	See…
Understand the visual and audible responses of B.A.S.I.S. Locks	page 12–2
Enable communications without a card or PIN	page 12–3
Open a standard B.A.S.I.S. Lock with dead batteries	page 12–6
Respond to common problems	page 12–7

Note: When servicing components, always test that the lock works properly when you're finished.

VISUAL AND AUDIBLE RESPONSE QUICK REFERENCE

The tables below summarize the visual and audible responses for Electronic Stand-Alone Locks. See page 12–7 for complete troubleshooting details.

Shared responses

Green LED	Red LED	Sounder	Meaning
3 flashes	---	---	Access is granted.
3 slow flashes	---	---	Passage mode is granted.
3 slow flashes	---	3 long tones	Battery is low (warning).
---	3 flashes	3 short tones	Access is denied.
3 flashes	3 flashes	3 short tones	Battery is very low (alarm).
4 flashes	4 flashes	4 short tones	Lock performed an internal reset.
---	Stays on	---	Programming mode is active. Or, for B.A.S.I.S. Locks, the lock is busy after communication mode has ended.
---	---	3 long tones	Lock timed out and is waiting for an action.

Additional B.A.S.I.S. responses

Green LED	Red LED	Sounder	Meaning
2 flashes	---	---	Prompt to enter the new PIN during PIN programming mode, or prompt to use a second card and/or PIN during two card and/or PIN control.
Stays on	---	---	Door is in communication mode.
---	---	3 short tones	Bad data was presented to the reader.

Additional Keypad EZ responses

Green LED	Red LED	Sounder	Meaning
1 quick flash	---	1 short tone	Button was pressed.
2 slow flashes	---	---	Data entry succeeded.
	3 flashes	1 long tone	Data entry failed.
Alternating green & red pattern 4 slow flashes		2 long tones	PIN database is full.
---	1 slow flash	---	Bad data was detected by the reader.

ENABLING COMMUNICATIONS FOR B.A.S.I.S. LOCKS WITHOUT A CARD OR PASSWORD

If the card or password is lost or unavailable, you can enable communications for a standard B.A.S.I.S. Lock or for EX Series Exit Hardware Trim by pressing the password override button on the control electronics board, which is located on the inside of the outside escutcheon. This procedure will not affect the user database, history, or lock configuration.

Before you handle the control electronics board or any component on the control electronics board, make sure that you are properly grounded using an electrostatic discharge (ESD) protection kit. Touching the control electronics board without proper grounding can damage sensitive electronic components—even if you don't notice any static discharge.

1. *For standard locks,* remove the inside and outside escutcheons from the door. For mortise lock instructions, see page 5–6. For cylindrical lock instructions, see page 7–5.

   For exit hardware trim, remove the B.A.S.I.S. escutcheon from the door. See page 8–13.

2. *For standard locks,* peel back the lower edge of the gasket from the outside escutcheon to expose the lower portion of the control electronics board.

   For exit hardware trim, remove the following parts from the escutcheon to expose the control electronics board:
   - mounting standoffs (page 10–2)
   - escutcheon gasket (page 10–3)
   - lift finger (page 10–4)
   - mounting plate (page 10–6).

3. Connect the PDA to the lock:
   a. Connect the serial cable to the PDA.
   b. Connect the serial cable to the programming cable.
   c. Connect the programming cable to the lock's communication port. The connector snaps into place.

      Note 1: For standard B.A.S.I.S. Locks, the communication port is located in the bottom of the outside escutcheon.

      Note 2: When the B.A.S.I.S. escutcheon for exit hardware trim has been removed from the door, the communication port is located on the end of the primary harness.

4. Start B.A.S.I.S. Transport:
   a. *On the PDA*, tap Start, then Programs, then BAS, then Transport.
   b. *From the B.A.S.I.S. Transport Main window on the PDA*, tap View, then Transport.

      The Transport window shows the Panel/Reader Tree.

      Note: When transferring history records from the door, you do not need to highlight a reader in the tree.
5. Using B.A.S.I.S. Transport, select the communications activity you want to perform.
6. When you see the login window, press the password override button on the electronics board.

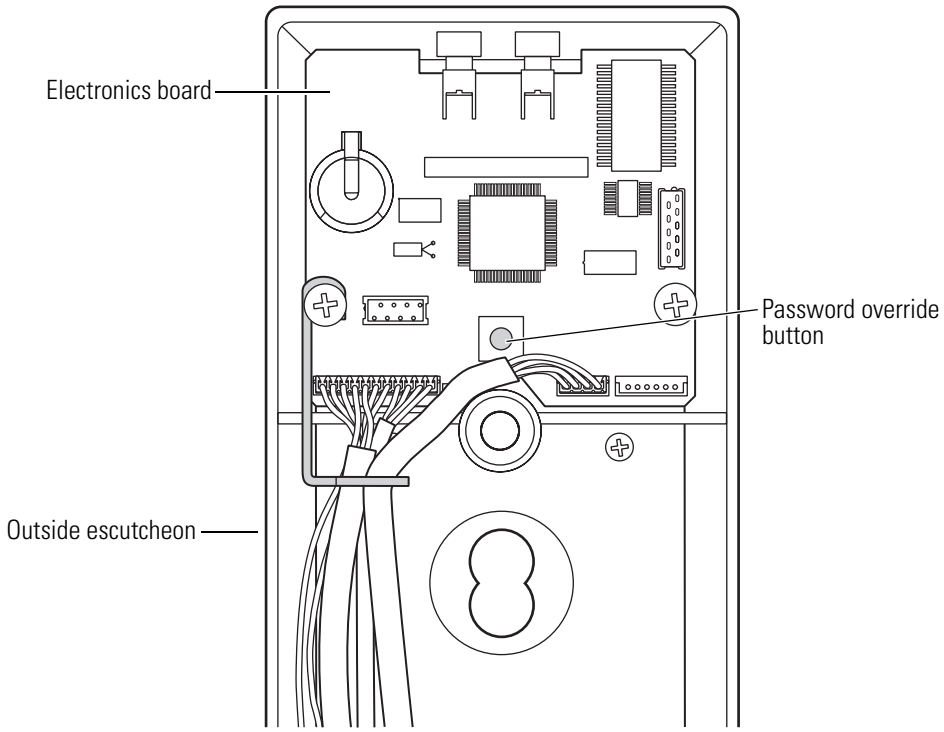


Figure 12.1 Enabling communications with the password override button (escutcheon for standard mortise lock shown)

7. When you have finished performing communications activities, disconnect the PDA from the lock. Press the button on the programming cable connector and unplug the programming cable from the lock's communication port.

8. *For standard locks,* press the escutcheon gasket into place so the electronics board is covered.

   For exit hardware trim, reinstall the following parts in the escutcheon:

   - mounting plate (page 10–7)
   - lift finger (page 10–5)
   - escutcheon gasket (page 10–3)
   - mounting standoffs (page 10–2).

9. *For standard locks,* reinstall the inside and outside escutcheons on the door. For mortise lock instructions, see page 5–10. For cylindrical lock instructions, see page 7–9.

   For exit hardware trim, reinstall the escutcheon on the door. See page 8–14.

OPENING A STANDARD B.A.S.I.S. LOCK WITH DEAD BATTERIES

If you were not able to replace the batteries before they died in a standard B.A.S.I.S. Lock and you cannot unlock the lock, you can provide temporary power to the lock and use a valid card or PIN to unlock it. Then, you can access the lock's battery compartment to replace the battery pack.

1. To provide temporary power to the lock, connect the programming cable, with an external battery pack connected, to the lock's communication port. Although the serial cable and PDA do not need to be connected to the programming cable, it will not cause a problem if they are connected.

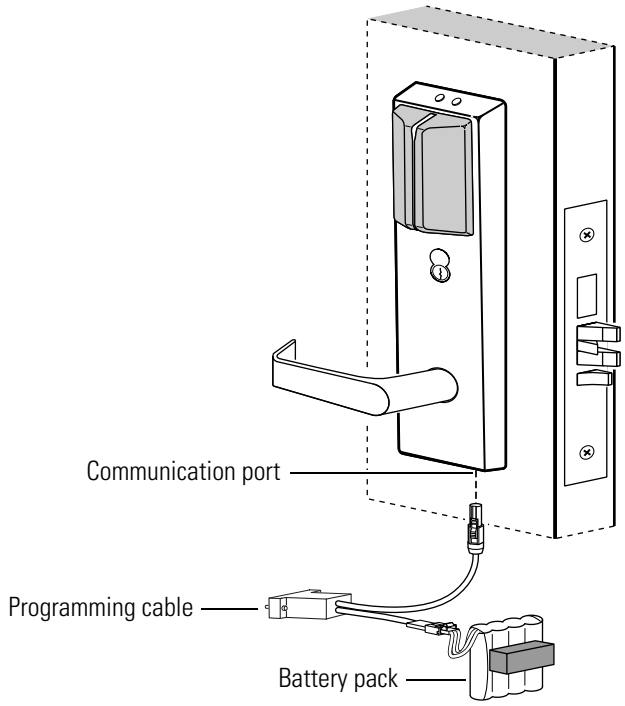


Figure 12.2 Connecting the programming cable to the lock

2. To unlock the lock, use a valid operating card for the lock.
3. Replace the lock's battery pack. See page 11–4.
4. Disconnect the programming cable from the lock.

RESPONDING TO PROBLEMS

The following table summarizes the possible causes for certain problems based on visible and audible signals (LEDs, sounder, and whether access is granted or denied). The causes of failure are listed in the order of likelihood. (The most likely cause is first, and so forth.)

Another helpful tool to use when troubleshooting a standard B.A.S.I.S. Lock or B.A.S.I.S. EX Series Exit Hardware Trim is the lock's history of events. Appendix A lists the types of events recorded in the history and their meaning. For information about retrieving and viewing history records, see the *B.A.S.I.S. Transport User's Guide* (T63307).

When troubleshooting a standard Keypad EZ Lock or Keypad EZ Exit Hardware Trim, you also can refer to the *Keypad EZ Lock Programming Guide* (T80911). This guide provides step-by-step instructions for programming user PINs and other features for Keypad EZ Locks.

See page 12–2 for a visual and audible response quick reference.

LEDs	Sounder	Access	Possible causes include…	You should…
Green flashes	---	Granted	Condition is normal for a valid card or PIN.	
---	3 short tones	Denied	a. *For a B.A.S.I.S. Lock*, card was used, but removed too soon.	a. Try using the card again.
			b. *For a B.A.S.I.S. Lock*, no valid data was found on the track that was read.	b. Verify that the variable card format track on the card matches the track physically read by the reader.
Red flashes	3 short tones	Denied	a. Card number or PIN is invalid.	a. Check the access privileges.
			b. *For a B.A.S.I.S. Lock*, timezone is invalid.	b. Check the access privileges.
			c. *For a standard mortise lock,* card or PIN does not have the deadbolt override privilege.	c. Either program the deadbolt override privilege for the card, or instruct the user that his or her card or PIN cannot access the lock when the deadbolt is thrown.
			d. *For a B.A.S.I.S. Lock*, card is damaged.	d. Re-encode the operating card. It may be possible to re-encode a damaged card. If not, issue a new operating card.
			e. Facility code is invalid.	e. Program the correct facility code.
			f. *For a B.A.S.I.S. Lock*, card has expired.	f. Re-program the lock or re-encode the card with a valid expiration date.
			g. *For a Keypad EZ Lock*, PIN has been deleted or was never programmed.	g. Reprogram the lock with the PIN.
			h. *For a B.A.S.I.S. Lock*, variable card format error occurred.	h. Check the variable card format.
			i. *For a B.A.S.I.S. Lock*, door may be in a lock down mode.	i. Check to see if a door lock mode is active by using the PDA to review the door mode. If desired, set the online mode to Automatic. See page 11–18.
			j. *For a Keypad EZ Lock,* 3 invalid PINs were attempted in a row.	j. Wait 60 seconds, then enter a valid PIN.
Red flashes	3 short tones	Passage mode denied	The card or PIN does not have the passage mode privilege.	Either program the passage mode privilege for the user or instruct the user that his or her card or PIN does not have this privilege. **Note:** *For Keypad EZ Locks*, all Supervisor and Administrator PINs have the passage mode privilege.

LEDs	Sounder	Access	Possible causes include…	You should…
---	---	Denied	a. *For a B.A.S.I.S. Lock with magnetic stripe or dual validation reader*, card reader needs cleaning.	a. Clean the card reader head using a cleaning card for magnetic stripe card readers.
			b. Primary wire harness is damaged or disconnected.	b. Check the primary wire harness. If it is damaged, replace the wire harness. For standard locks, see page 9–5. For exit hardware trim, see page 10–9.
			c. *For a B.A.S.I.S. Lock with magnetic stripe or dual validation reader*, foreign object is inserted in the card reader.	c. Remove the object or replace the reader.
			d. Battery pack is faulty.	d. Check the battery pack. Replace it, if necessary. See page 11–4.
			e. *For a B.A.S.I.S. Lock,* firmware has locked up due to incorrect sequence when connecting the battery pack.	e. Perform this sequence of actions: 1. Disconnect the battery pack (page 11–4 for standard locks or page 11–8 for exit hardware trim). 2. Remove the backup battery (page 11–2). 3. Reconnect the battery pack (page 11–6 for standard locks or page 11–9 for exit hardware trim). 4. Reinstall the backup battery (page 11–3).
			f. Primary wire harness is disconnected from the motor or is damaged.	f. Check the primary wire harness. For standard locks, see page 9–5. For exit hardware trim, see page 10–9.
			g. *For a B.A.S.I.S. Lock with smart card reader*, reader is not properly aligned in the bezel on the inside of the reader. (Smart card present switch is stuck.)	g. Pop the smart card reader into place in the bezel. For standard locks, see page 9–26. For exit hardware trim, see page 10–14.
			h. *For a B.A.S.I.S. Lock with smart card reader*, conformal coating has been applied to the flex cable connector.	h. Remove the flex cable from the connector and apply electrical contact cleaner to the connector. Reinstall the flex cable. For standard locks, see page 9–26. For exit hardware trim, see page 10–14.
			i. Firmware is out-of-date or faulty.	i. Update the firmware. Contact your local BEST Representative.
			j. Control electronics board is malfunctioning.	j. Replace the control electronics board. For standard locks, see page 9–8. For exit hardware trim, see page 10–10.

LEDs	Sounder	Access	Possible causes include…	You should…
---	---	Denied	k. Control electronics board failed for an unknown reason. **Note:** If the above condition exists, the key override may be used to access the door. If the door has no key override, call your local BEST Representative.	k. Replace the control electronics board. For standard locks, see page 9–8. For exit hardware trim, see page 10–10.
			l. Reader has failed.	l. Replace the reader. For standard locks, see page 9–21. For exit hardware trim, see page 10–13.
			m. *For a Keypad EZ Lock,* the remote unlock button is not working.	m. Check all of the remote unlock wiring connections. Also, check the push-button switch and the electric hinge or door transfer loop. See the *Installation Instructions for Keypad EZ Remote Unlock* (T80922).
Green flashes	---	Denied	a. *For a standard mortise lock,* self-aligning trim is overtightened.	a. Loosen the escutcheon mounting screws. See page 5–6.
			b. *For a standard mortise lock,* mounting plates are overtightened.	b. Loosen the mounting plates. See page 5–17.
			c. *For a standard cylindrical lock,* the chassis type is set to "mortise".	c. Change the programming setting for the chassis type to cylindrical.
			d. *For a standard cylindrical lock,* the spindle may be faulty.	d. If you can hear the chassis cycling, replace the chassis. Contact your local BEST Representative for assistance.
			e. *For exit hardware trim,* the locking plate is not properly positioned.	e. Reposition the locking plate. See page 10–20.
			f. The trim or latchbolt is not properly aligned.	f. Realign the trim or latchbolt.
			g. *For a standard mortise lock or exit hardware trim*, the motor's worm gear may be faulty.	g. Contact your local BEST Representative for assistance.
Green flashes	3 long tones	Granted after delay	Battery is low (warning).	Change the battery pack. See page 11–4.
Red & green flashes	3 short tones	Denied	Battery is very low (alarm).	Change the battery pack. See page 11–4.

LEDs	Sounder	Access	Possible causes include…	You should…
Green stays on	---	Denied	*For a B.A.S.I.S. Lock*, communication card was used.	Wait 1 minute for the communications mode to automatically expire, or use any card again to turn off communications.
Red stays on	---	Denied	*For a Keypad EZ Lock*, a programming session was started.	Enter 99# to end the programming session.
Red flashes	---	Denied	a. Sounder is damaged.	a. Replace the reader. For standard locks, see page 9–21. For exit hardware trim, see page 10–13.
			b. Control electronics board is malfunctioning.	b. Replace the control electronics board. For standard locks, see page 9–8. For exit hardware trim, see page 10–10.
			c. Primary harness connection is damaged or loose.	c. Check the primary harness and replace the harness, if necessary. For standard locks, see page 9–5. For exit hardware trim, see page 10–9.
---	---	Granted	a. LEDs are damaged.	a. Replace the reader. For standard locks, see page 9–21. For exit hardware trim, see page 10–13.
			b. Control electronics board is malfunctioning.	b. Replace the control electronics board. For standard locks, see page 9–8. For exit hardware trim, see page 10–10.
			c. *For a B.A.S.I.S. Lock with smart card reader*, smart card flex cable is broken.	c. Replace the smart card reader. For standard locks, see page 9–24. For exit hardware trim, see page 10–14.
Green or Red flashes	---	Denied	*For a B.A.S.I.S. Lock with smart card reader*, smart card flex cable is hitting against the LED.	Install protective tape on the flex cable. For standard locks, see page 9–24. For exit hardware trim, see page 10–14.
Red & green flashes repeating	---	Denied	Door failed a diagnostic self-test.	Replace the control electronics. For standard locks, see page 9–8. For exit hardware trim, see page 10–10.

The following table summarizes the possible causes for certain problems. The causes of failure are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice…	Possible causes include…	You should…
Door is always unlocked.	a. Door may be in passage mode.	a. End passage mode by using the card again or re-entering the PIN.
	b. *For a B.A.S.I.S. Lock*, door may be in an unlocked mode. Setting the door mode to "Unlocked" means that anyone can access the door in this condition.	b. Use the PDA to check the online mode. If desired, change the online mode. See page 11–18.
	c. *For a B.A.S.I.S. Lock*, door may be in a door unlock timezone.	c. Use the PDA to check whether the online mode is "Automatic" (timezone control). See page 11–18. Use B.A.S.I.S. to check the reader configuration for the door.
For a Keypad EZ Lock with remote unlock, the lock unlocks when the door is bumped or the lock randomly cycles.	Remote unlock wires may be damaged or connected improperly.	Check all remote unlock connections. See the *Installation Instructions for Keypad EZ Remote Unlock* (T80922).
For exit hardware trim, the lever is dangling.	a. Shear pin has been broken.	a. Replace the shear pin. See page 10–28.
	b. Lever is not properly installed.	b. Reinstall the lever. See page 10–26.
For a B.A.S.I.S. Lock, cannot plug the PDA connector into the door's communication port.	a. Foreign object is jammed into the communication port.	a. Remove the object from the communication port.
	b. Communication port is damaged.	b. Replace the primary wire harness. For standard locks, see page 9–5. For exit hardware trim, see page 10–9.
	c. Programming cable is damaged.	c. Replace the programming cable. See page 11–15.
For a B.A.S.I.S. Lock with magnetic stripe or dual validation reader, cannot swipe a card.	Foreign object is jammed in the card reader.	Push the object down through the card reader if possible. Unless the object is preventing the card from being swiped, there is no reason to remove the trim. If the object will not push through the card reader, remove the trim and remove the foreign object, and/or replace the reader. For standard locks, see page 9–21. For exit hardware trim, see page 10–13. **Note:** Use a valid card to verify that the card reader head is not damaged.

When communicating between a PDA and B.A.S.I.S. Lock or B.A.S.I.S. EX Series Exit Hardware Trim, you see a message that communications has failed.	a. Serial cable and/or programming cable is not connected properly.	a. Check all cable connections.
	b. Primary wire harness is damaged or disconnected.	b. Check the primary wire harness. If it is damaged, replace the wire harness. For standard locks, see page 9–5. For exit hardware trim, see page 10–9.
	c. Serial cable, programming cable, or communication port is faulty or damaged.	c. Try communicating with another device. If communication works, neither the serial cable or programming cable is the problem. If communication does not work, replace the cable(s). See page 11–15.

A

B.A.S.I.S. LOCK HISTORY EVENT TYPES

The following table describes in alphabetical order each history event that can be recorded at a B.A.S.I.S. Lock.

Lock history event types

Event	Description
ACCESS GRANTED	The lock granted access to the indicated card or PIN.
ACCESS GRANTED ON FACILITY CODE	The lock granted access to the indicated card during a Facility Code Only mode.
DENIED INVALID TOKEN (BADGE)	The lock denied access to the indicated card and/or PIN because the card and/or PIN was not valid.
DENIED INVALID ISSUE CODE	The lock denied access to the indicated card because the card's issue number was not valid.
DENIED LOW BATTERY	The lock denied access to the indicated card or PIN because the lock's battery was very low.
DENIED INVALID CARD FORMAT	The lock denied access to the card because the format was not valid.
DENIED COUNT EXCEEDED	The lock denied access to the indicated card or PIN because the number of invalid cards or PINs presented to the lock exceeded the programmed threshold.
DENIED INVALID FACILITY CODE	The lock denied access to the card because the card's facility code was incorrect.
DENIED INACTIVE TOKEN	The lock denied access to the indicated card or PIN because the card or PIN is not active in the database.
DENIED USE LIMIT EXCEEDED	The lock denied access to the indicated card because the card exceeded the programmed use limit.
DENIED INVALID ACCESS LEVEL	The lock denied access to the indicated card because the card was not assigned the access level necessary to unlock the lock.
DENIED TIMEOUT EXCEEDED-NO SECOND CARD	The lock denied access to the indicated card during two card control mode because the second card was not presented within the allocated time period.
DENIED INVALID PIN	The lock denied access to the indicated PIN because the PIN was not valid.
MODE FACILITY CODE	The lock's mode changed to facility code only.
MODE CARD ONLY	The lock's mode changed to card only.
MODE FIRST CARD UNLOCKED	The lock's mode changed to first card unlocked.
MODE UNLOCKED	The lock's mode changed to unlocked.
MODE LOCKED	The lock's mode changed to locked.
MODE CARD OR PIN	The lock's mode changed to card or PIN.
MODE CARD AND PIN	The lock's mode changed to card and PIN.

Event	Description
READER RESET	The lock's reader was reset.
KEY OVERRIDE	The lock was unlocked using the key override.
TRANSFER, PDA TO LOCK	Using B.A.S.I.S. Transport, settings were transferred from the PDA to the lock.
TRANSFER, HISTORY	Using B.A.S.I.S. Transport, the lock's history records were retrieved from the lock to the PDA.
TRANSFER, DIAGNOSTICS	Using B.A.S.I.S. Transport, the lock's diagnostics information was retrieved from the lock to the PDA.

B INSTALLATION INSTRUCTIONS

The following pages contain:

- *Installation Instructions for Electronic Stand-Alone Mortise Locks*
- *Installation Instructions for Electronic Stand-Alone Cylindrical Locks*
- *Installation Instructions for Electronic Stand-Alone Exit Hardware Trim*.

Installation Instructions for Electronic Stand-Alone Mortise Locks

Planning the installation

Contents

These installation instructions describe how to install your B.A.S.I.S.® G (35HG), B.A.S.I.S. V (35HBV), or Keypad EZ (35HZ) Mortise Lock. Topics covered include:†

Planning the installation 1
Preparing the door and door jamb 2
Installing the lock 6
Completing the installation 13

Site survey

Use the following survey to record information about the installation site.

Lock information

Lock function:

- ❑ EV–Latch with key override
  - ❑ With key override sensing‡
- ❑ FV–Deadbolt with key override
  - ❑ With key override sensing‡
- ❑ LV–Deadbolt without key override
- ❑ NV–Latch without key override

Door information

Door handing and bevel:

- ❑ Left hand (LH)
- ❑ Left hand, reverse bevel (LHRB)
- ❑ Right hand (RH)
- ❑ Right hand, reverse bevel (RHRB)

Door thickness: _____ inches (1 3/4″ to 3″)

Environment information

Ambient temperature:

- ❑ Is within specifications. See the tables below.

This product meets the following Locked Door Outdoor test requirements for ANSI/BHMA 156.25:

Side of door	Range
Inside	+66°F to +74°F (+19°C to +23°C)
Outside	–31°F to +151°F (–35°C to +66°C)

This product meets the following Full Indoor test requirements for ANSI/BHMA 156.25:

Side of door	Range
Inside and outside	+32°F to +120°F (0°C to +49°C)

Components checklist

Use the following checklist to make sure that you have the items necessary to install your Electronic Stand-Alone Mortise Lock.

Components provided in the box:

- ❑ Mortise case assembly
- ❑ Mortise case faceplate
- ❑ Inside escutcheon assembly
- ❑ Battery compartment door
- ❑ Battery pack
- ❑ Outside escutcheon assembly
- ❑ Inside and outside mounting plates
- ❑ Inside lever
- ❑ Outside lever & spindle assembly
- ❑ Cylinder assembly (for EV and FV functions only)
- ❑ Screw package
- ❑ Plastic bushing package
- ❑ Trim hole insert package
- ❑ Escutcheon screw package
- ❑ Strike
- ❑ Strike box
- ❑ Bar code ID sticker (for your records)
- ❑ Installation template and instructions

Other components:

- ❑ Core (for EV and FV functions only)
- ❑ Control key (for EV and FV functions only)

For B.A.S.I.S. Locks only:

- ❑ Temporary operator card

Special tools checklist

Use the following checklist to make sure that you have the special tools necessary to install your Electronic Stand-Alone Mortise Lock.

- ❑ Appropriate driver for the battery compartment door screw
- ❑ ED211 cylinder wrench (for EV and FV functions only)

† The Best Access Systems logo and B.A.S.I.S. are registered trademarks of Best Lock Corporation.

‡ Key override sensing is optional for 35HG, standard for 35HBV, and is not available for 35HZ.

Preparing the door and door jamb

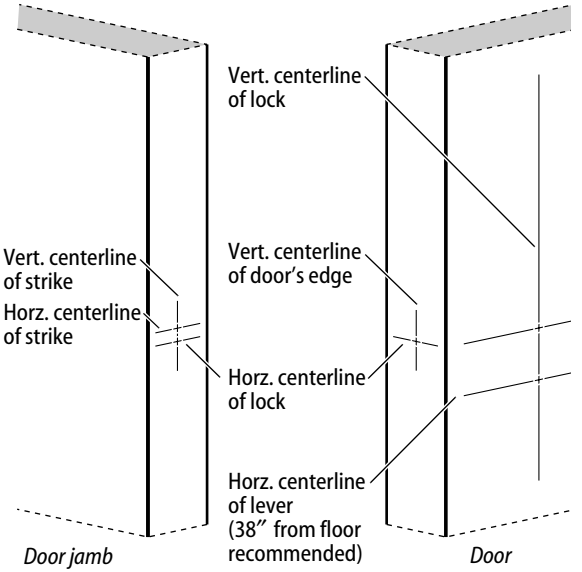

Vert. centerline of lock
Vert. centerline of strike
Horz. centerline of strike
Vert. centerline of door's edge
Horz. centerline of lock
Horz. centerline of lever (38″ from floor recommended)
Door jamb
Door

Figure 1 Marking the centerlines

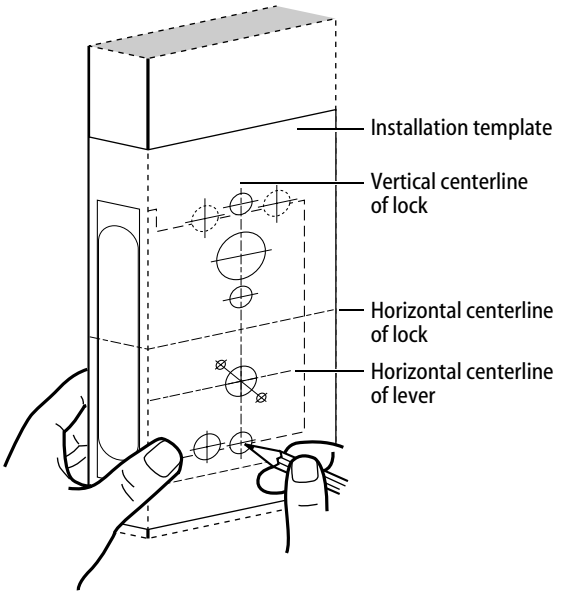


Figure 2 Positioning the template

1 Mark centerlines

Note: *If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the* G03 Template—Installation Specifications for 35HG, 35HBV, and 35HZ Mortise Locks.

1 On the door, measure and mark the height of the centerline of the lever from the floor (38″ recommended). On both sides of the door, on the door's edge, and on the door jamb, mark the horizontal centerline of the lock 1 1/2″ above the centerline of the lever.

Note: *If the door is a LH or RH door, mark the inside of the door. If the door is a LHRB or RHRB door, mark the outside of the door.*

2 On the door's edge and door jamb, mark the vertical centerline of the lock.

3 Measure and mark the backset (2 3/4″ standard) from the vertical centerline on the door's edge. On both sides of the door, mark the vertical centerline of the lock.

4 On the door jamb, mark the horizontal centerline of the strike 3/8″ above the horizontal centerline of the lock.

2 Position template and mark drill points

1 Cut the *G06 Template—Installation Template for 35HG, 35HBV, and 35HZ Mortise Locks* along the dashed lines and align the horizontal and vertical arrows with the marked centerlines on the door.

2 Tape the template to the door.

3 Center punch the necessary drill points. Refer to the instructions on the template.

Preparing the door and door jamb

3 Mortise for lock case and faceplate

1 Mortise the edge of the door for the lock case.

Note: *The mortise cavity depth of 4 5/8″ includes clearance for wiring behind the mortise case.*

2 Insert the lock in the mortise cavity.

3 Mark the outline of the lock faceplate.

4 Remove the lock. Mortise to fit the faceplate.

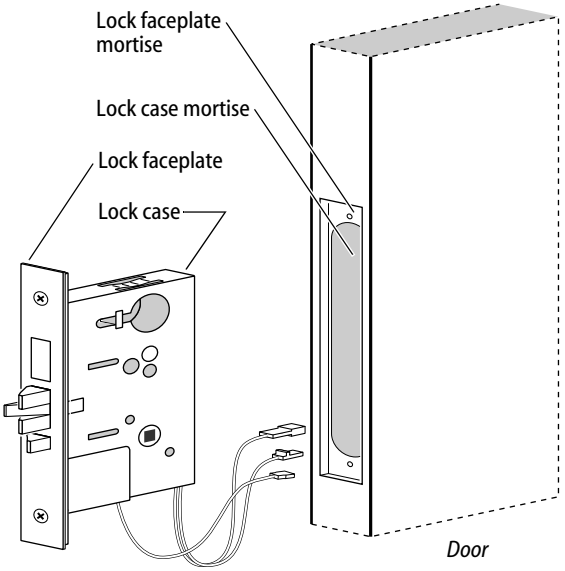


Figure 3 Mortising for the lock case and faceplate

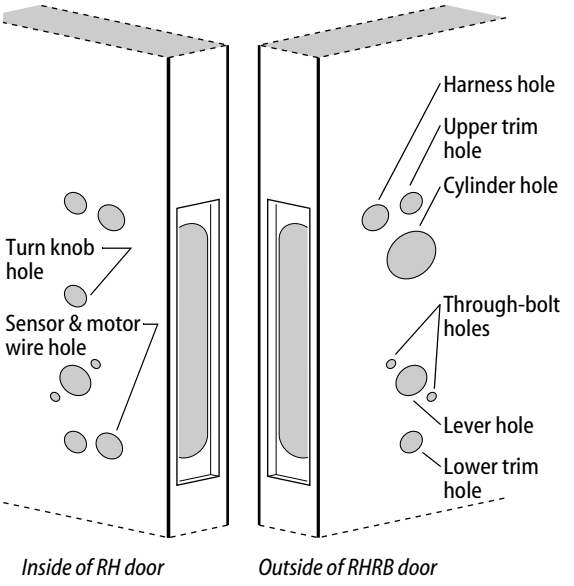


Figure 4a Drilling the RH and RHRB holes

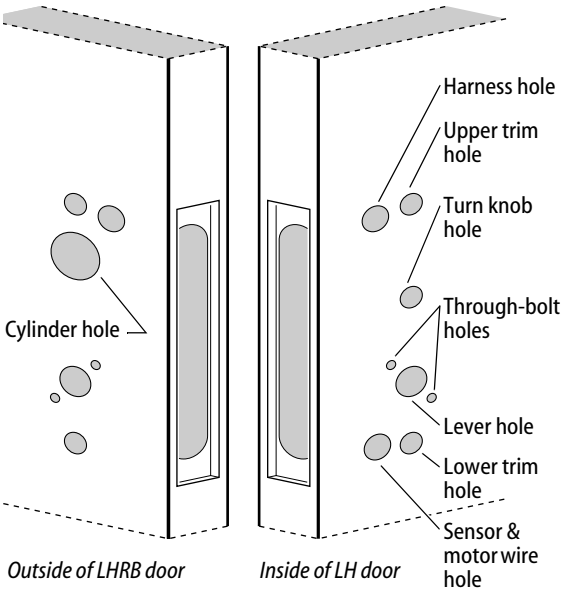


Figure 4b Drilling the LH and LHRB holes

4 Drill holes

Caution: **Check for the correct lock function, hand, and bevel before drilling.**

Drill the holes listed below:

- upper and lower trim holes
  — 5/8″ diameter
  — through door
- harness hole
  — 7/8″ diameter
  — through door
  — location based on handing
- cylinder hole
  — 1 3/8″ diameter
  — from outside into mortise cavity
  — EV and FV functions only
- turn knob hole
  — 5/8″ diameter
  — from inside into mortise cavity
  — FV and NV functions only
- upper and lower through-bolt holes
  — 3/8″ diameter
  — through door
- lever hole
  — 7/8″ diameter
  — through door
- sensor & motor wire hole
  — 3/4″ diameter
  — from inside into mortise cavity, approximately 1″ deep

Note 1: *To locate the center of a hole on the opposite side of the door, drill a pilot hole completely through the door.*

Note 2: *For holes through the door, it is best to drill halfway from each side of the door to prevent the door from splintering.*

Preparing the door and door jamb

5 Mortise for strike box and strike plate

1 On the door jamb, locate the horizontal centerline of the strike (3/8″ above the centerline of the lock), as well as the vertical centerline of the strike.
2 Mortise the door jamb to fit the strike box and strike plate.
3 Drill the holes for the screws used to install the strike box and strike plate.

6 Optional for Keypad EZ only: Prepare for remote unlock installation

If you want to be able to operate the Keypad EZ Lock remotely from a momentary push-button switch, see *Installation Instructions for Keypad EZ Remote Unlock* (T80922) for complete instructions.

7 Install mortise case

1 Remove the faceplate from the mortise case.
2 Drill the holes for the case mounting screws.
3 Insert the mortise case into the mortise cavity, while feeding the sensor and motor wires into the mortise cavity and out the sensor & motor wire hole to the inside of the door.

Note: *If the armored front of the mortise case is not flush with the door edge, remove the case and loosen the screws at the top and bottom of the case. Adjust the bevel of the armored front of the mortise case to match the bevel of the door. Tighten the screws and insert the mortise case back into the mortise cavity.*

4 Secure the mortise case with the case mounting screws.

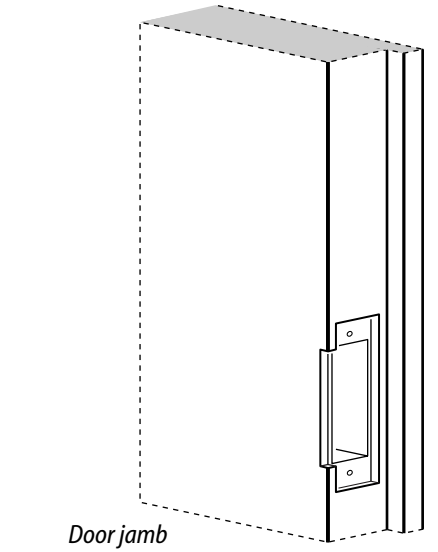


Figure 5 Mortising the door jamb for the strike box and strike plate

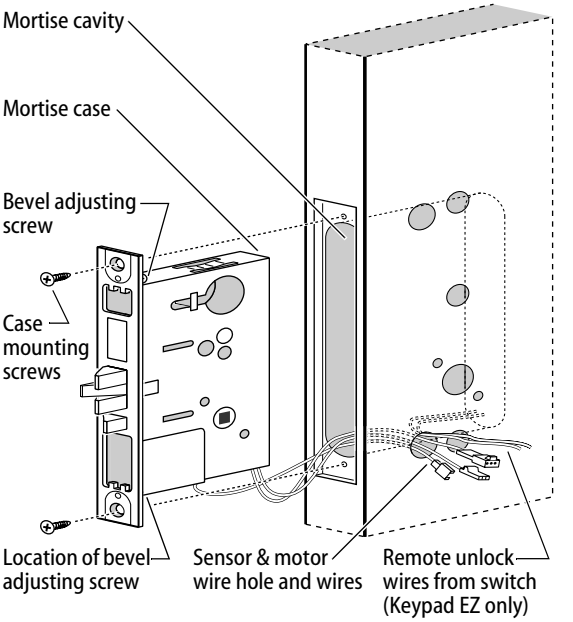

Mortise cavity
Mortise case
Bevel adjusting screw
Case mounting screws
Location of bevel adjusting screw
Sensor & motor wire hole and wires
Remote unlock wires from switch (Keypad EZ only)

Figure 7 Installing the mortise case (inside of door)

Installing the lock

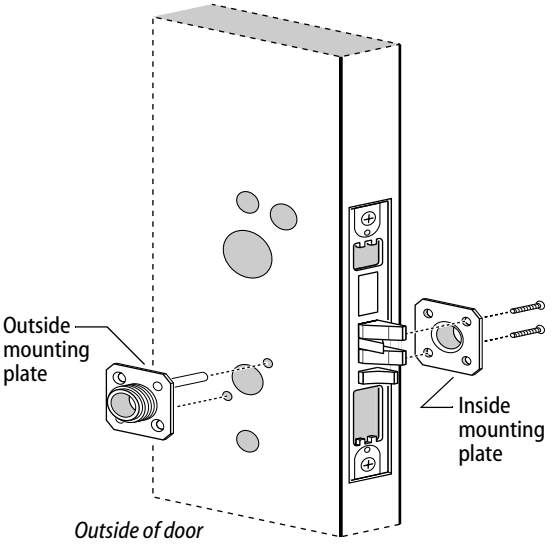


Figure 8 Installing the mounting plates

8 Install mounting plates

1 Insert the outside mounting plate through the door and mortise case.

2 Position the inside mounting plate opposite the outside mounting plate and screw them securely in place.

Caution: **Do not overtighten the mounting plate screws. Overtightening may compress the mortise cavity and bind the locking mechanism.**

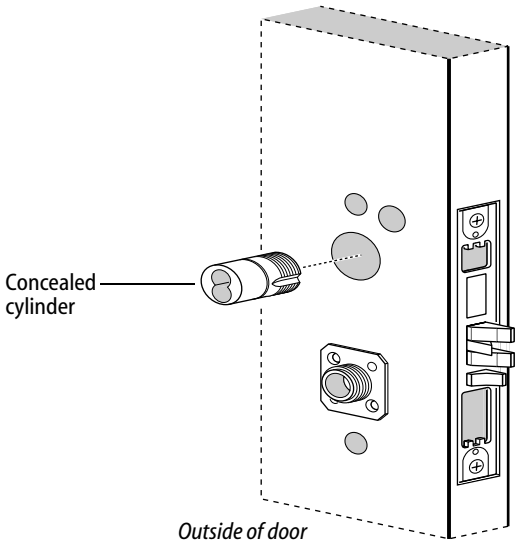


Figure 9 Installing the B.A.S.I.S. Lock cylinder

9 B.A.S.I.S. Locks only: Install cylinder (EV and FV functions only)

Use a cylinder wrench (ED211) to thread the concealed cylinder into the mortise case so that the groove around the cylinder head is even with the door surface.

Note: *Do not tighten the cylinder clamp screw until you perform task 13 on page 8.*

Caution: **A malfunction can occur if the cylinder is threaded in too far.**

Installing the lock

10 B.A.S.I.S. Locks only: Install core (EV and FV only)

1 Insert the control key into the core and rotate the key 15 degrees to the right.

2 With the control key in the core, insert the core into the cylinder.

3 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: **The control key can be used to remove cores and to access doors. Provide adequate security for the control key.**

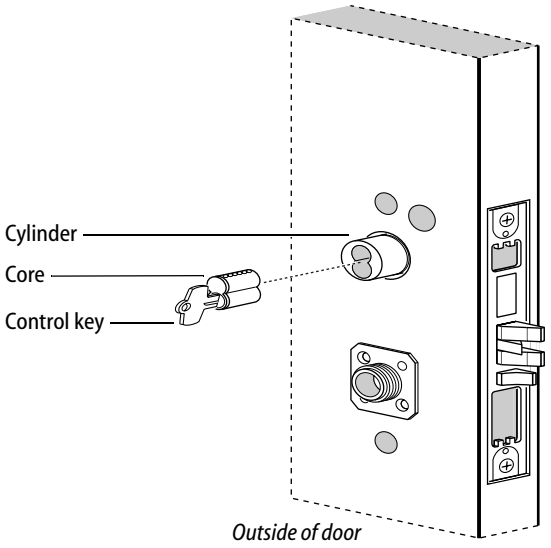


Figure 10 Installing the core (B.A.S.I.S. Lock shown)

11 B.A.S.I.S. Locks only: Remove backup battery tab

Caution 1: **For the lock to operate properly, you must remove the backup battery tab.**

Caution 2: **Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.**

1 Locate the backup battery tab on the inside of the outside escutcheon.

2 Pull down on the tab and remove it from the outside escutcheon to turn on the backup battery.

Installing the lock

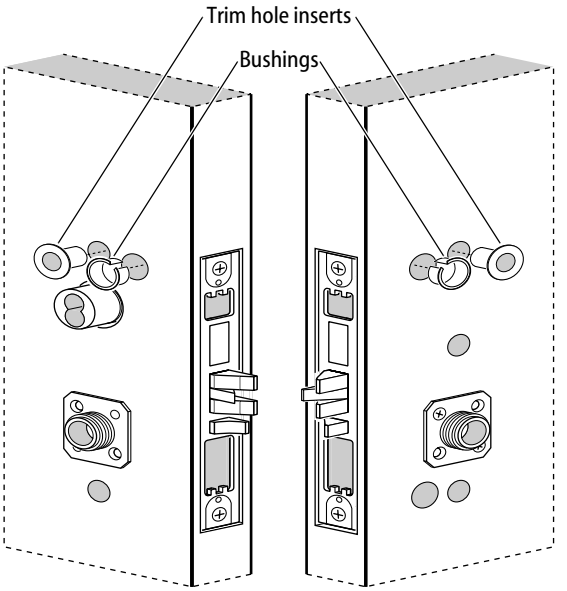


Figure 12 Installing the trim hole inserts and bushings (B.A.S.I.S. Lock shown)

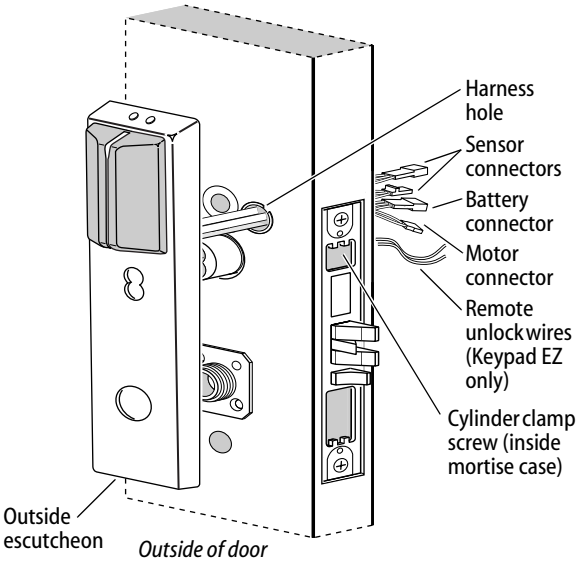


Figure 13 Feeding the wire harness connectors through the harness hole (B.A.S.I.S. Lock shown)

12 Install trim hole inserts and bushings

1 Insert the two trim hole inserts into the upper trim hole on each side of the door, as shown in Figure 12.

2 Insert the two bushings into the harness hole on each side of the door, as shown in Figure 12.

13 Route wire harnesses and position outside escutcheon

1 From the outside of the door, feed the motor connector, battery connector, and sensor connectors through the harness hole.

Note: *NV function locks do not have a sensor harness.*

Caution: **When routing the connectors, make sure the harnesses are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

2 **For EV and FV function B.A.S.I.S. Locks only**, perform these steps:

- a Firmly press the outside escutcheon in position on the door. The core should be flush with the outer surface of the escutcheon.
- b If necessary, adjust the cylinder depth plus or minus one turn so that the core is flush with the outer surface of the escutcheon.
- c Secure the cylinder in the mortise case with the cylinder clamp screw.

3 Rest the outside escutcheon on the door by inserting the trim studs into the trim holes.

Note: *You can temporarily install the outside lever to hold the outside escutcheon in place. See task 19 on page 13.*

Installing the lock

14 Make motor and sensor connections

1 From the inside of the door, make the motor connection, the key override sensor connection (B.A.S.I.S. EV and FV functions)†, and the deadbolt sensor connection (FV and LV functions).

Note: *It is physically possible to connect the key override sensor connector from the mortise case to the battery connector from the wire harness. To avoid this mistake, connect only the connectors with matching wire colors.*

Caution: **When making the motor connection and sensor connections, make sure:**

- **there are no loose wire connections where the wires are inserted into the connectors**
- **the connectors are firmly mated**

Wire connection	Colors	No. of wires	No. of pins
Motor	Yellow Gray	2	2
Key override sensor†	Gray	2	3
Deadbolt sensor	Blue (B.A.S.I.S.) Orange (Keypad EZ)	2	3
Remote unlock‡	Brown	2	–

2 **Optional for Keypad EZ Locks only:** Make the remote unlock connections with wire nuts or crimp connectors. See the *Installation Instructions for Keypad EZ Remote Unlock* (T80922) for more information.

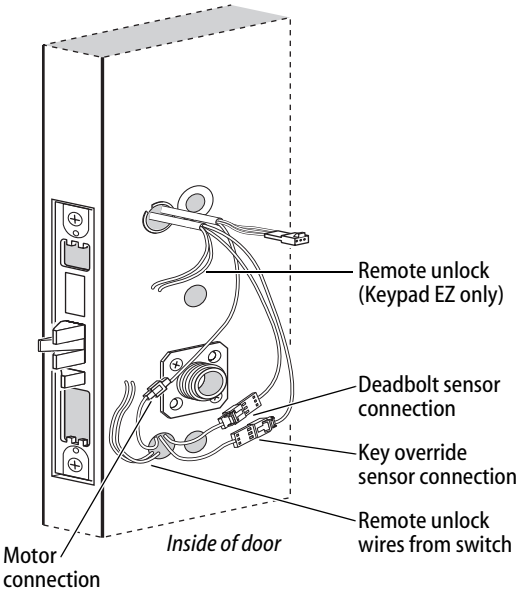


Figure 14 Making the motor connection and sensor connections

† Key override sensing is optional for 35HG, standard for 35HBV, and not available for 35HZ.

‡ Remote unlock is standard for 35HZ, but not available for 35HG and 35HBV.

15 Keypad EZ Locks only: Connect grounding cable

Caution: **Failure to connect the grounding cable may make the lock susceptible to electrostatic discharge (ESD), which may cause the lock to malfunction.**

1 Unscrew the top mounting plate screw. See Figure 8 on page 6.

2 Place the loose end of the grounding cable (which is connected to the inside escutcheon) on the mounting plate screw.

3 Reinstall the top mounting plate screw, securing the grounding cable to the inside mounting plate.

Caution: **Do not dangle the inside escutcheon by the grounding cable.**

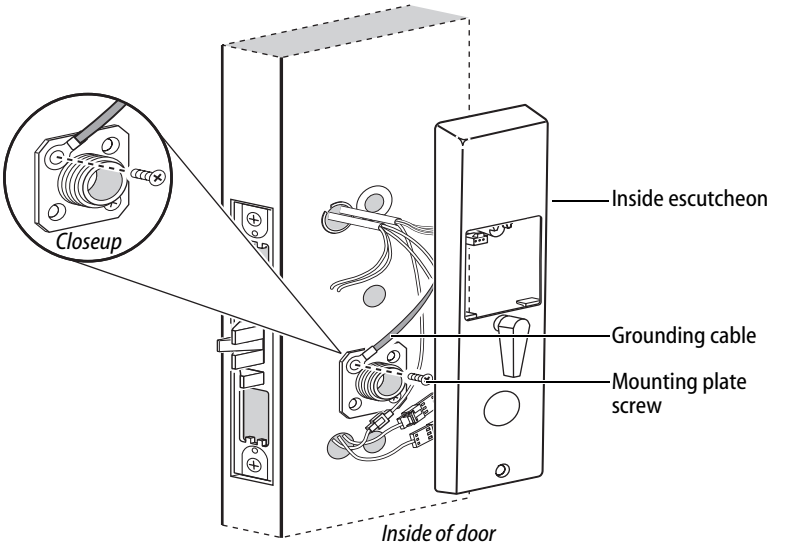


Figure 15 Connecting the grounding cable

Installing the lock

16 Secure escutcheons

1 Position the inside and outside escutcheons on the door.

2 **Making sure that the escutcheons do not pinch the wires**, secure the escutcheons to the door. Do not tighten the screws completely. Use the combination mounting screw in the upper trim hole and the standard mounting screw in the lower trim hole.

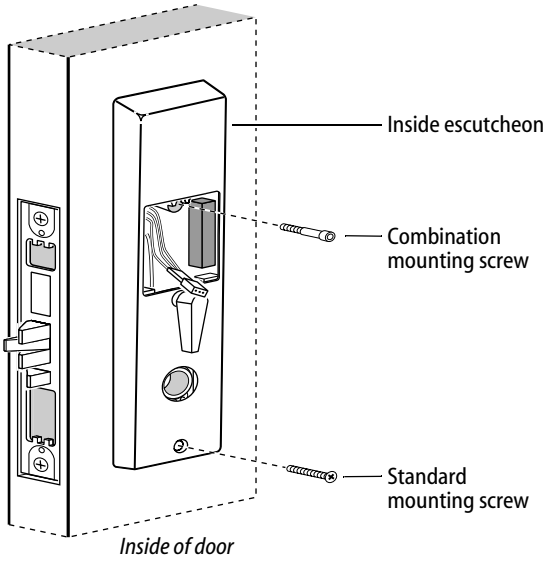


Figure 16 Securing the escutcheons

17 Keypad EZ Locks only: Install cylinder (EV and FV functions only)

1 Rotate the cylinder cam to the 12 o'clock position as shown in Figure 17.

2 Use a cylinder wrench (ED211) to thread the cylinder into the mortise case. See Figure 17.

3 Secure the cylinder in the mortise case with the cylinder clamp screw.

4 Install the core. See task 10 on page 7.

5 Test the lock and deadbolt for smooth operation.

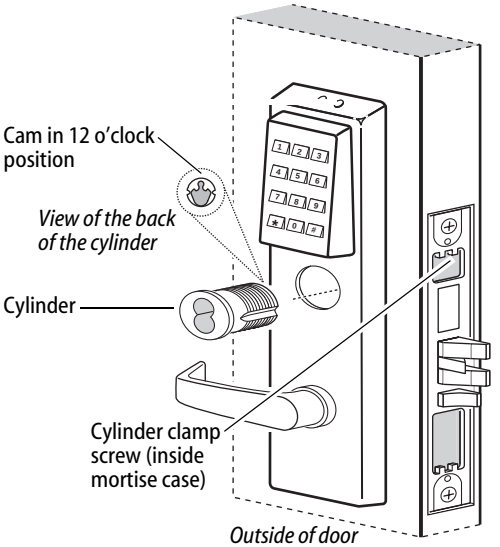

Cam in 12 o'clock position
View of the back of the cylinder
Cylinder
Cylinder clamp screw (inside mortise case)
Outside of door

Figure 17 Installing the Keypad EZ Lock cylinder

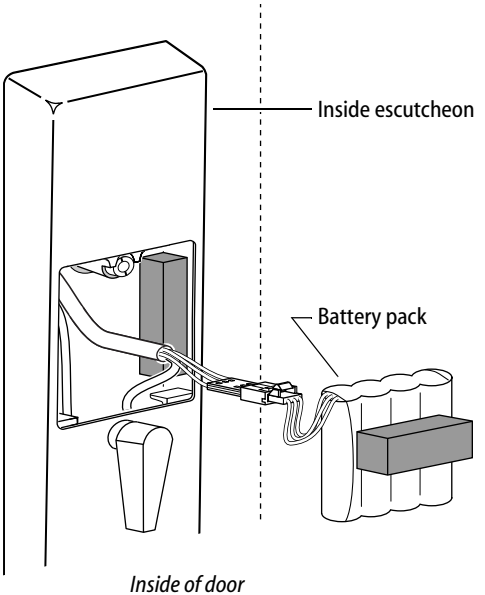


Figure 18 Connecting the battery pack

18 Install battery pack

1 Connect the battery pack to the battery connector on the wire harness inside the battery compartment.

Note: *The battery connection has 3 wires and 3 pins. The wire colors are:*

- *red with white stripe*
- *white*
- *black with white stripe.*

Caution: **When connecting the battery pack, make sure:**

- **there are no loose wire connections where the wires are inserted into the connectors**
- **the connectors are firmly mated.**

2 Place the battery pack inside the battery compartment so that the foam will face the battery compartment door.

Caution: **When routing the battery wires, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

Completing the installation

19 Install inside and outside levers

1 Unscrew the inside spindle one full turn to allow the spindles to turn freely.

2 With the handle pointing toward the door hinges, insert the outside lever and spindles assembly into the lock from the outside of the door.

3 Slide the inside lever onto the inside spindle and secure it with the set screw.

4 Making sure that the core is positioned properly in the outside escutcheon (EV and FV function B.A.S.I.S. Locks only) and the escutcheons are aligned properly on the door, tighten the escutcheon mounting screws.

Note for B.A.S.I.S. Locks only: *If a core is not available, you can use the cylinder wrench (ED211) to help you align the core opening in the escutcheon.*

5 Turn the levers to check that they operate smoothly.

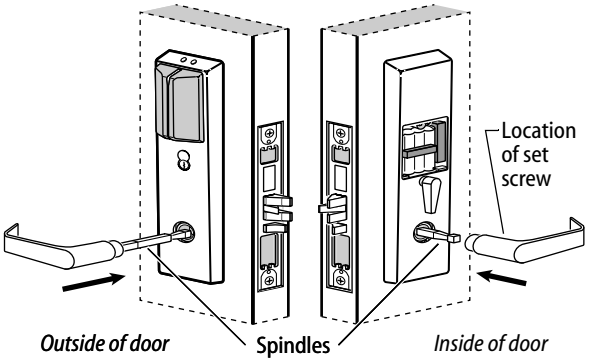


Figure 19 Installing the levers (B.A.S.I.S. Lock shown)

Completing the installation

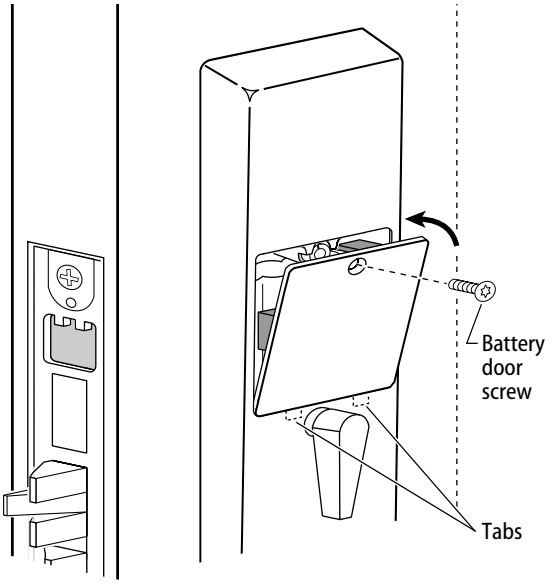


Figure 20 Installing the battery compartment door

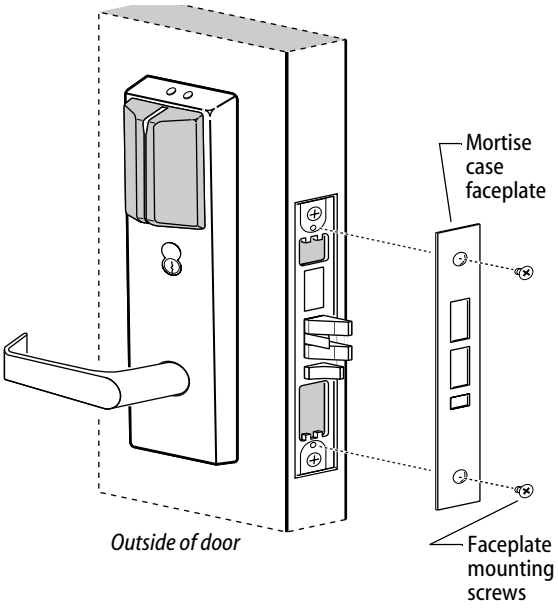


Figure 21 Installing the mortise case faceplate (B.A.S.I.S. Lock shown)

20 Install battery compartment door

1 **Making sure that the battery compartment door does not pinch any wires**, insert the tabs of the battery compartment door into its mating slots and swing the door closed.

2 Use the appropriate driver to secure the battery compartment door with the security screw or Phillips head screw. Tighten firmly.

21 Install mortise case faceplate

1 Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.

2 Check the lock for proper operation.

Completing the installation

22 Install strike box and strike plate

1 Insert the strike box into the mortise in the door jamb. Place the strike plate over the strike box and secure the strike with the screws provided.

2 Check the position of the auxiliary bolt against the strike plate.

Caution: **The auxiliary bolt must make contact with the strike plate. The auxiliary bolt deadlocks the latchbolt and prevents someone from forcing the latch open when the door is closed. If the incorrect strike is installed, a lock-in can occur.**

Note: *The recommended gap between the door and jamb is 1/8″ .*

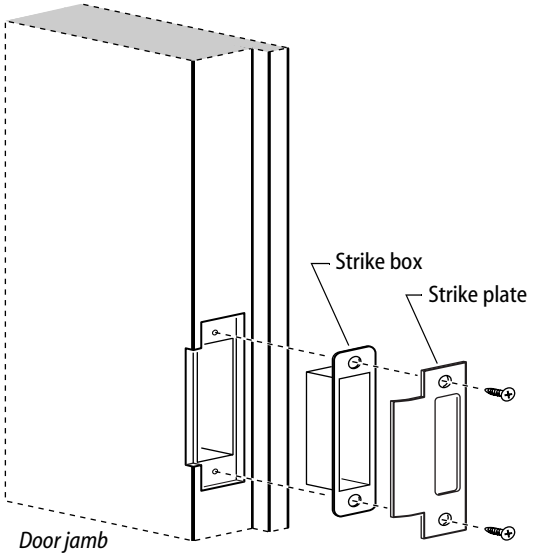


Figure 22a Installing the strike box and strike plate

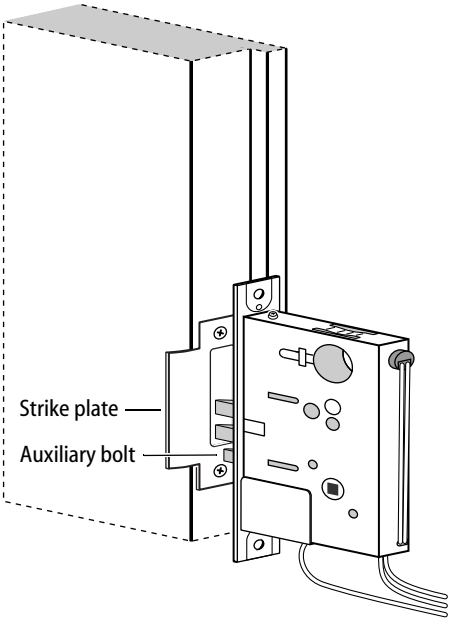


Figure 22b Positioning the strike

Completing the Installation

23 Test lock

For Keypad EZ Locks only:

To test the lock for proper operation before the lock is programmed, follow these instructions:

1 Press **9998**.

2 Press **#**.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

For B.A.S.I.S. Locks only:

To test the lock for proper operation before the lock is programmed, use the temporary operator card that came with the lock. This card is for temporary use only. After permanent cards have been programmed for the lock, the temporary card should be deleted.

1 Use the temporary operator card to activate the lock.

When the lock detects the presence of a card for the first time, the lock performs a series of diagnostic self-tests. If no problem is detected, the lock responds with 4 red LED flashes, simultaneous with 4 green LED flashes and 4 short tones.

If a problem is detected, the lock's red LED and green LED simultaneously flash in a repeating pattern (and no tones sound). The lock's control electronics board must be replaced. For instructions, see the *Electronic Stand-Alone Locks Service Manual* (T80935).

Note: *If the lock has a proximity card reader, it may have already been activated by the presence of an object near the card reader.*

2 Use the temporary operator card to access the lock.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

If the mechanism doesn't unlock, refer to the following table. For additional troubleshooting instructions, see the *Electronic Stand-Alone Locks Service Manual*.

LEDs	Sounder	You should
Single red flash	—	Use the card at a moderate speed.
Red flashes	3 short tones	Use the temporary operator card provided with the lock.
Green flashes	—	Check the motor connection.
—	—	Check the battery connection.

For all EV and FV function locks

Insert and turn the key to unlatch the door.

For all FV and LV function locks

From the inside of the door, turn the turn knob and make sure that the deadbolt operates properly.

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T61836/Rev C 1854161 ER-7991-12 May 2004

Installation Instructions for Electronic Stand-Alone Cylindrical Locks

Planning the installation

Contents

These installation instructions describe how to install your B.A.S.I.S.® G (93KG), B.A.S.I.S. V (93KBV), or Keypad EZ (93KZ) Cylindrical Lock. Topics covered include:†

Planning the installation 1
Preparing the door and door jamb 2
Installing the lock 6
Completing the installation 14

Site survey

Use the following survey to record information about the installation site. You need this information to determine how to prepare the door for the lock.

Door information

Door handing and bevel:

- ❑ Left hand (LH)
- ❑ Left hand, reverse bevel (LHRB)
- ❑ Right hand (RH)
- ❑ Right hand, reverse bevel (RHRB)

Door thickness: _____ inches (1 3/4″ to 2 1/4″)

Environment information

Ambient temperature:

- ❑ Is within specifications. See the tables below.

This product meets the following Locked Door Outdoor test requirements for ANSI/BHMA 156.25:

Side of door	Range
Inside	+66°F to +74°F (+19°C to +23°C)
Outside	–31°F to +151°F (–35°C to +66°C)

This product meets the following Full Indoor test requirements for ANSI/BHMA 156.25:

Side of door	Range
Inside and outside	+32°F to +120°F (0°C to +49°C)

Components checklist

Use the following checklist to make sure that you have the items necessary to install your Electronic Stand-Alone Cylindrical Lock.

Components provided in the box:

- ❑ Chassis with outside lever and outside rose liner assembly
- ❑ Inside escutcheon assembly
- ❑ Battery compartment door
- ❑ Battery pack
- ❑ Inside rose liner
- ❑ Outside escutcheon assembly
- ❑ Inside lever
- ❑ Throw member package
- ❑ Latch
- ❑ Hub washers
- ❑ Trim hole insert package
- ❑ Plastic bushing package
- ❑ Escutcheon screw package
- ❑ Strike package
- ❑ Bar code ID sticker (for your records)
- ❑ Installation template and instructions

Other components:

- ❑ Core
- ❑ Control key
- ❑ Temporary operator card (B.A.S.I.S. Locks only)

Special tools checklist

Use the following checklist to make sure that you have the special tools necessary to install your Electronic Stand-Alone Cylindrical Lock.

- ❑ KD303 Drill jig
- ❑ Appropriate driver for the battery compartment door screw
- ❑ KD325 Strike plate locating pin
- ❑ KD315 Faceplate marking chisel

† The Best Access Systems logo and B.A.S.I.S. are registered trademarks of Best Lock Corporation.

Preparing the door and door jamb

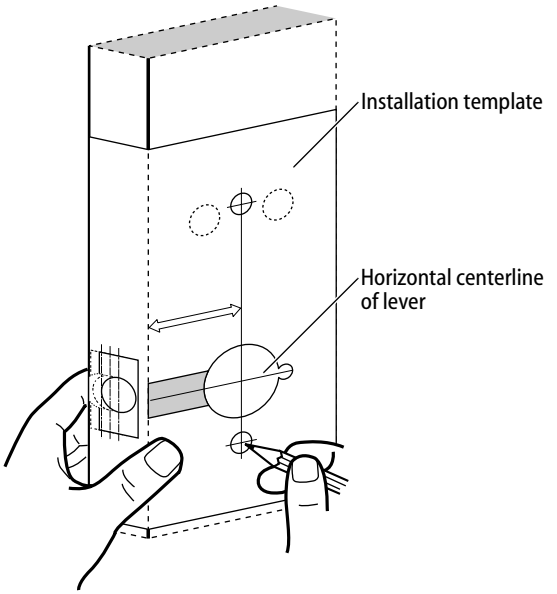

Figure 1 Positioning the template

1 Position template and mark drill points

Note: *If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the* G01 and G02 Templates—Installation Specifications for 93KG, 93KBV and 93KZ Cylindrical Locks.

Note: *If the door is a LH or RH door, mark the inside of the door. If the door is a LHRB or RHRB door, mark the outside of the door.*

For uncut doors and frames

1 Measure and mark the horizontal centerline of the lever (the centerline for the chassis hole) on the door and door jamb. Mark the vertical centerline of the door edge.

Note: *The recommended height from the floor to the centerline of the lock is 38″ .*

2 Fold the *G05 Template—Installation Template for 93KG, 93KBV and 93KZ Cylindrical Locks* on the dashed line and carefully place it in position on the high side of the door bevel.

Note: *For steel frame applications, align the template's horizontal centerline for the latch with the horizontal centerline of the frame's strike preparation.*

3 Tape the template to the door.

4 Center punch the necessary drill points. Refer to the instructions on the template.

For doors with standard cylindrical preparation

1 Fold the *G05 Template—Installation Template for 93KG, 93KBV and 93KZ Cylindrical Locks* on the dashed line. Looking through the hole from the opposite side of the door, align the template so that you see the template outline of the 2 1/8″ diameter chassis hole.

2 Tape the template to the door.

3 Center punch the necessary drill points. Refer to the instructions on the template.

Preparing the door and door jamb

2 Drill holes and mortise for latch face.

1 Drill the holes listed below:

- upper and lower trim holes
  — 5/8″ diameter
  — through door
- harness hole
  — 3/4″ diameter
  — through door
  — location based on handing
- motor wire hole
  — 7/16″ diameter
  — through door
  — before drilling chassis hole
- chassis hole
  — 2 1/8″ diameter
  — through door
  — after drilling motor wire hole
- latch hole
  — 1″ diameter
  — meets chassis hole

Note 1: *To locate the center of a hole on the opposite side of the door, drill a pilot hole completely through the door.*

Note 2: *For holes through the door, it is best to drill halfway from each side of the door to prevent the door from splintering.*

2 Mortise the edge of the door to fit the latch face.

3 Drill the holes for the screws used to install the latch.

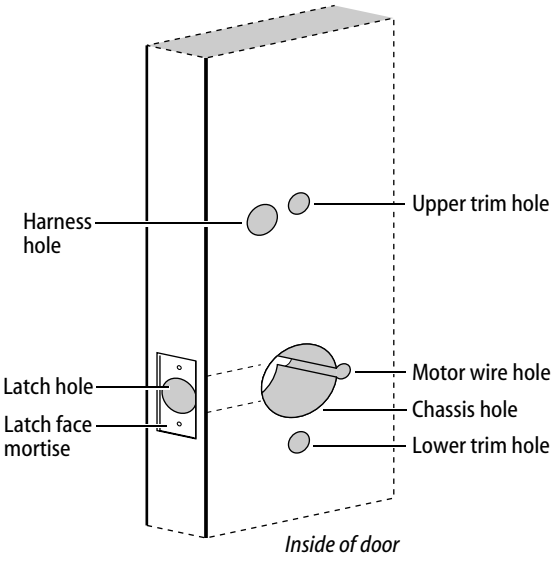

Figure 2 Drilling holes and mortising for the latch face

3 Optional for Keypad EZ Locks only: Prepare for remote unlock installation

If you want to be able to operate the Keypad EZ Lock remotely from a momentary push-button switch, see *Installation Instructions for Keypad EZ Remote Unlock* (T80922) for complete instructions.

Preparing the door and door jamb

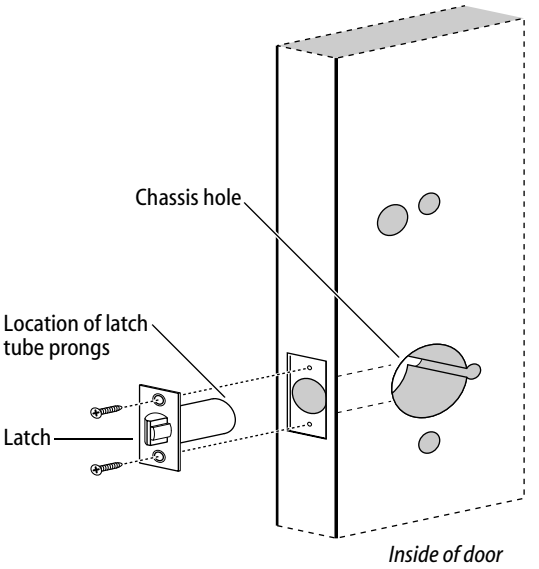

Figure 4 Installing the latch in the door

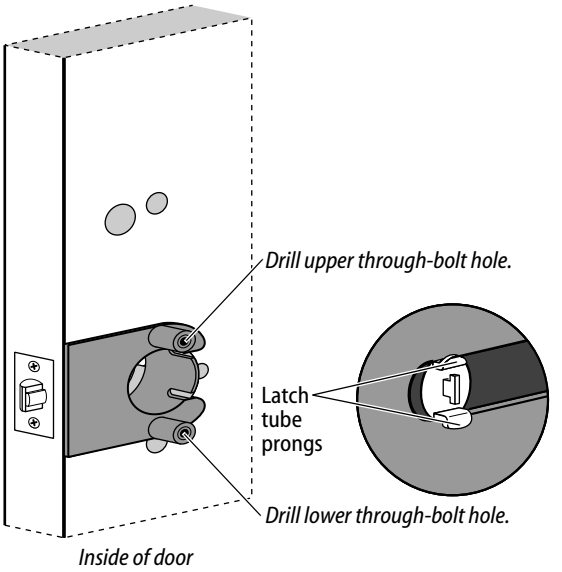

Figure 5 Installing the drill jig and drilling the through-bolt holes

4 Install latch

1 Install the latch in the door.

Note: *The latch tube prongs should be centered and should project into the chassis hole.*

2 Check that the door swings freely.

5 Use drill jig to drill through-bolt holes

1 Press the drill jig (KD303) onto the door, engaging it with the latch tube prongs (see the close-up in Figure 5). Make sure the front edge of the jig is parallel with the door edge.

2 Drill the through-bolt holes (5/16″ diameter) halfway into the door.

3 Turn over the drill jig and repeat steps 1 and 2 from the opposite side of the door.

Note: *Replace the drill jig after 10 door preparations.*

Preparing the door and door jamb

6 Install strike box and strike plate

1 In alignment with the center of the latchbolt, mortise the door jamb to fit the strike box and strike plate.
2 Drill the holes for the screws used to install the strike box and strike plate.
3 Insert the strike box and secure the strike with the two screws provided.
4 Check the position of the deadlocking plunger against the strike plate.

Caution: **The deadlocking plunger of the latchbolt must make contact with the strike plate, as shown in Figure 6b. The plunger deadlocks the latchbolt and prevents someone from forcing the latch open when the door is closed.**

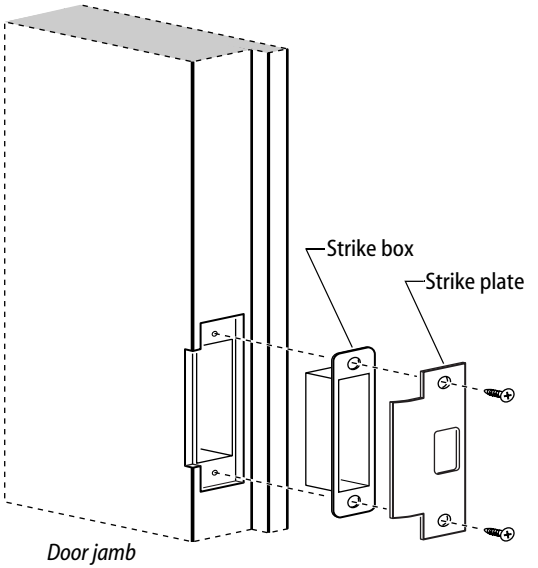

Figure 6a Installing the strike box and strike plate

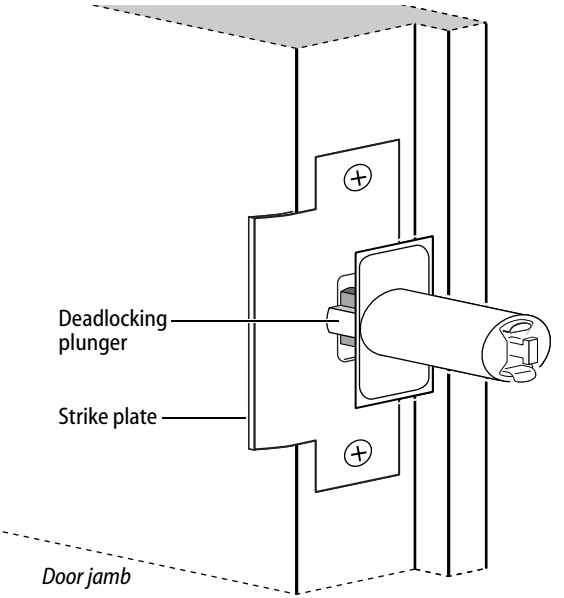

Figure 6b Aligning the deadlocking plunger with the strike plate

Installing the lock

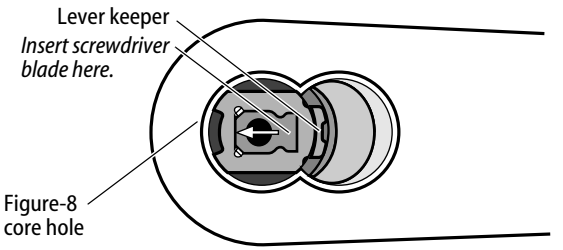

Figure 7 Removing the outside lever

7 Remove outside lever

1 Insert the control key into the core and rotate the key 15 degrees to the right.
2 Insert a flat blade screwdriver into the figure-8 core hole and into the lever.
3 Press the screwdriver blade in the direction of the arrow in Figure 7.

Note: *You cannot remove the lever if the screwdriver blade is inserted too far past the keeper.*

4 Slide the lever off of the sleeve.

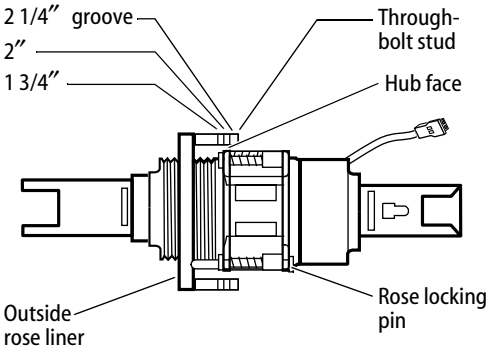

Figure 8 Adjusting the rose liner for the door thickness

8 Adjust for door thickness

1 Determine the door's thickness.
2 Pull the rose locking pin and rotate the outside rose liner until the proper groove on the through-bolt stud lines up with the hub face.

Note 1: *Make sure that the locking pin fully locks into the rose liner.*

Note 2: *The lockset fits doors 1 3/4″ to 2 1/4″ thick.*

Installing the lock

9 Install lock chassis and engage retractor in latch

From the outside of the door, insert the lock chassis into the 2 1/8″ chassis hole, routing the motor wire through the notch.

Caution: **Make sure that the latch tube prongs engage the chassis frame and that the latch tailpiece engages the retractor.**

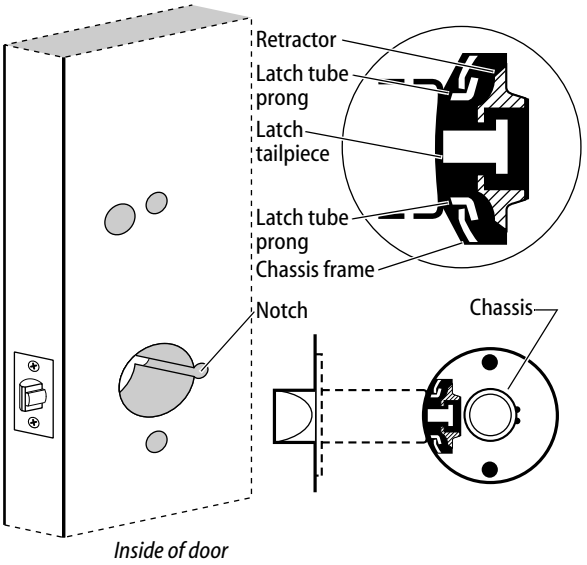

Figure 9 Installing the lock chassis and engaging the retractor in the latch

10 Install through-bolts and inside rose liner

1 Place the inside rose liner on the chassis, aligning the holes in the rose liner with the holes prepared in the door.

Caution: **Make sure that there is clearance for the motor wire between the rose liner and the door.**

2 Install the through-bolts through the rose liner and door in the top and bottom holes.

3 Tighten the rose liner on the door with the through-bolts.

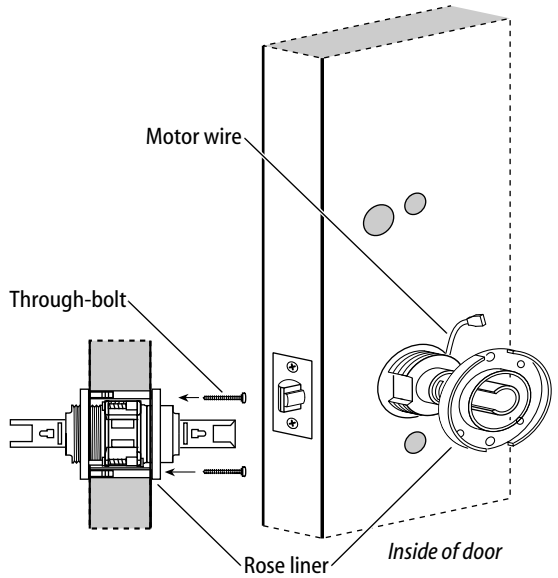

Figure 10 Installing the through-bolts and rose liner

Installing the lock

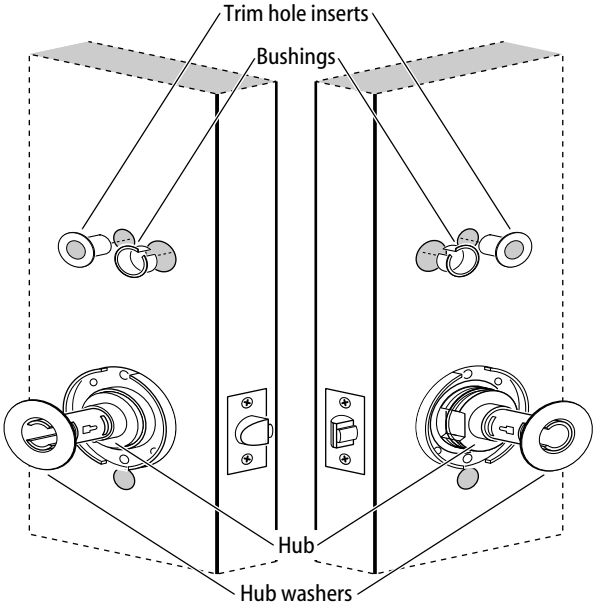

Figure 12 Installing the trim hole inserts, bushings, and hub washers

11 B.A.S.I.S. Locks only: Remove backup battery tab

Caution 1: **For the lock to operate properly, you must remove the backup battery tab.**

Caution 2: **Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.**

1 Locate the backup battery tab on the inside of the outside escutcheon.

2 Pull down on the tab and remove it from the outside escutcheon to turn on the backup battery.

12 Install trim hole inserts, bushings, and hub washers

1 Insert the two trim hole inserts into the upper trim hole on each side of the door, as shown in Figure 12.

2 Insert the two bushings into the harness hole on each side of the door, as shown in Figure 12.

3 On each side of the door, slide a hub washer over the chassis sleeve so it rests on the hub.

Installing the lock

13 Route wire harness and position outside escutcheon

1 From the outside of the door, feed the motor connector, battery connector, and Keypad EZ remote unlock wires, through the harness hole.

Caution: **When routing the connectors, make sure the wire harness is not routed across any sharp edges or over any surface that could damage its sleeving or wire insulation.**

2 Temporarily rest the outside escutcheon on the door by inserting the trim studs into the trim holes.

Note: *You can temporarily install the outside lever to hold the outside escutcheon in place. See task 18 on page 14.*

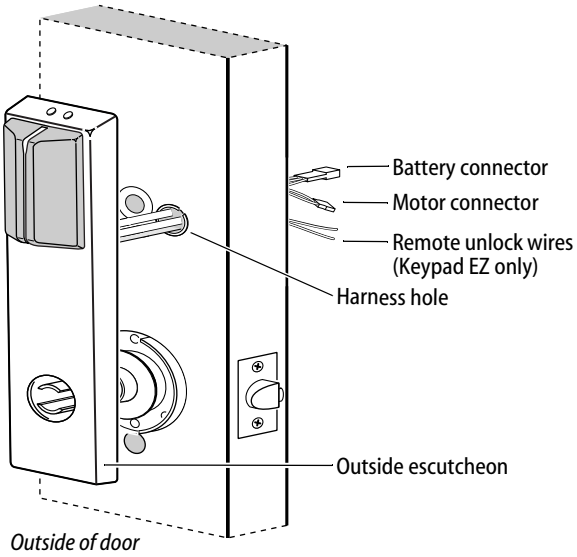

Figure 13 Feeding the wire harness connectors through the harness hole (B.A.S.I.S. Lock shown)

Installing the lock

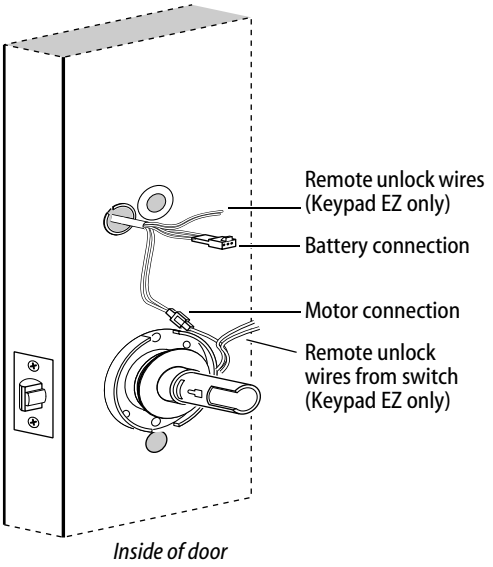

Figure 14 Making the motor connection

14 Make motor connection

1 From the inside of the door, connect the motor connector from the chassis to its mating connector on the wire harness.

Note: *The motor connection has 2 wires and 2 pins. The wire colors are yellow and gray.*

Caution: **When making the motor connection, make sure:**

- **there are no loose wire connections where the wires are inserted into the connectors**
- **the connectors are firmly mated.**

2 **Optional for Keypad EZ Only:** Make the remote unlock connections with wire nuts or crimp connectors. See the *Installation Instructions for Keypad EZ Remote Unlock* (T80922) for more information.

Installing the lock

15 Keypad EZ Locks only: Connect grounding cable

Caution: **Failure to connect the grounding cable may make the lock susceptible to electrostatic discharge (ESD), which may cause the lock to malfunction.**

1 Unscrew the top through-bolt. See Figure 10 on page 7.

2 Place the loose end of the grounding cable (which is connected to the inside escutcheon) on the through-bolt.

3 Reinstall the top through-bolt, securing the grounding cable to the inside rose liner.

Caution: **Do not dangle the inside escutcheon by the grounding cable.**

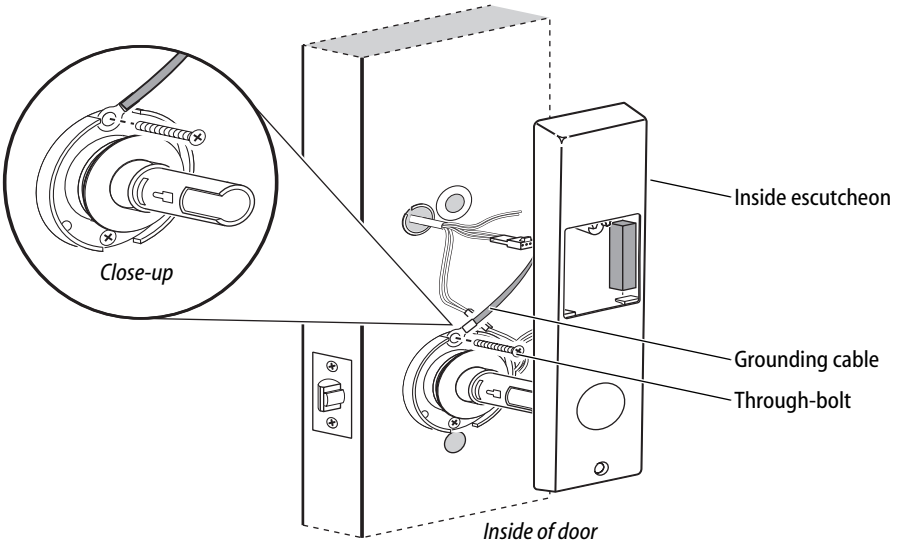

Figure 15 Making the motor connection

Installing the lock

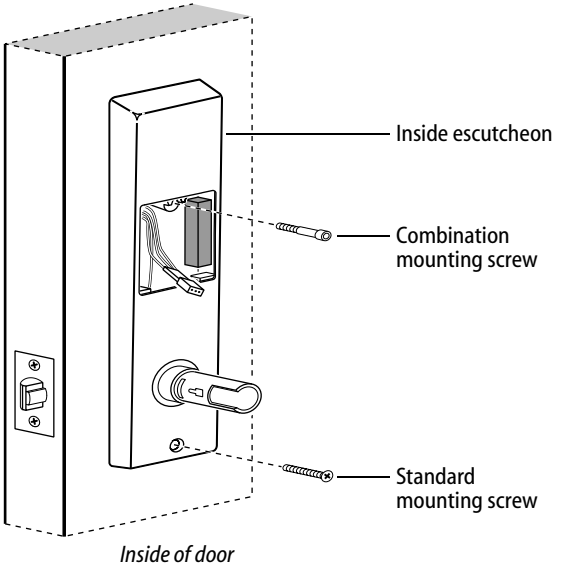

Figure 16 Securing the escutcheons

16 Secure escutcheons

1 Position the inside and outside escutcheons on the door.

2 **Making sure that the escutcheons do not pinch the wires**, secure the escutcheons to the door—but do not tighten. Use the combination mounting screw at the upper trim hole and the standard mounting screw at the lower trim hole.

Installing the lock

17 Install battery pack

1 Connect the battery pack to the battery connector on the wire harness inside the battery compartment.

Note: *The battery connection has 3 wires and 3 pins. The wire colors are:*

- *red with white stripe*
- *white*
- *black with white stripe.*

Caution: **When connecting the battery pack, make sure:**

- **there are no loose wire connections where the wires are inserted into the connectors**
- **the connectors are firmly mated.**

2 Place the battery pack inside the battery compartment so that the foam will face the battery compartment door.

Caution: **When routing the battery wires, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

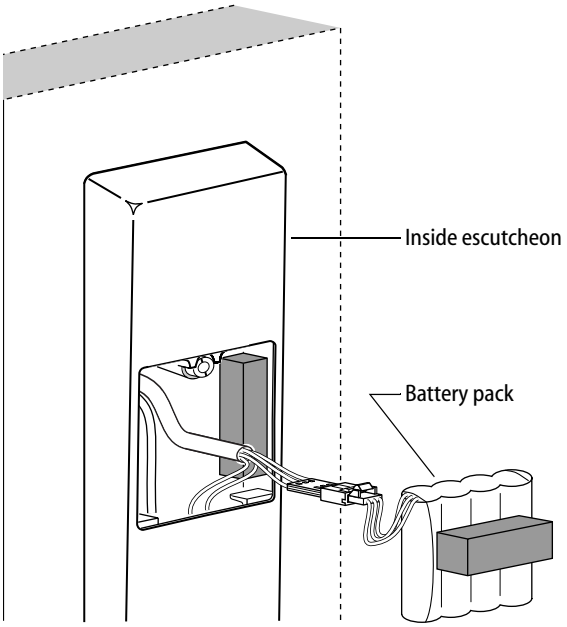

Figure 17 Connecting the battery pack

Completing the installation

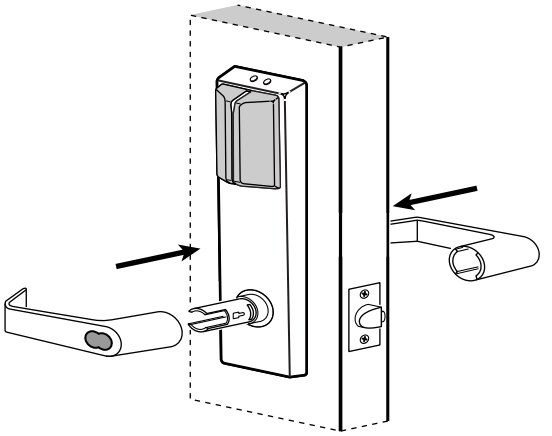

Figure 18 Installing the levers

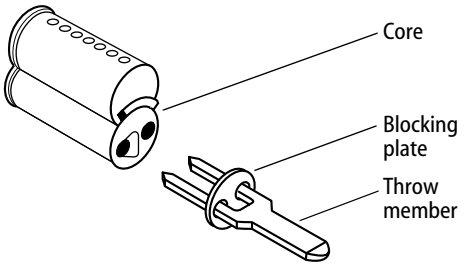

Figure 19a Installing the blocking plate and throw member

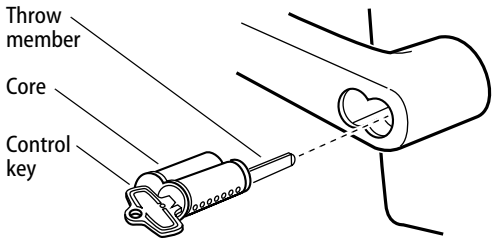

Figure 19b Installing the core

18 Install inside and outside levers

Note: *To use a core and throw member from a manufacturer other than BEST with an Electronic Stand-Alone Lock, see the* Installation Instructions for 9K Non-interchangeable Cores & Throw Members *(T56093). Skip task 18 and task 19.*

For the inside and outside levers

1 With the handle pointing toward the door hinges, position a lever on the outside sleeve and push firmly on the lever until it is seated. Repeat, placing the other lever on the inside sleeve.
2 Tighten the escutcheon mounting screws.
3 Turn the levers to check that they operate smoothly.

19 Install core and throw member

1 Install the blocking plate onto the throw member.

Caution: **You must use the blocking plate to prevent unauthorized access.**

For 6-pin cores only: Install the plastic spacer (not shown, supplied with permanent cores) instead of the blocking plate, on the throw member.

2 Insert the control key into the core and rotate the key 15 degrees to the right.
3 Insert the throw member into the core.
4 Insert the core and throw member into the lever with the control key.
5 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: **The control key can be used to remove cores and to access doors. Provide adequate security for the control key.**

Completing the installation

20 Install battery compartment door

1 **Making sure that the battery compartment door does not pinch any wires**, insert the tabs of the battery compartment door into its mating slots and swing the door closed.

2 Use the appropriate driver to secure the battery compartment door with the security screw or Phillips head screw. Tighten firmly.

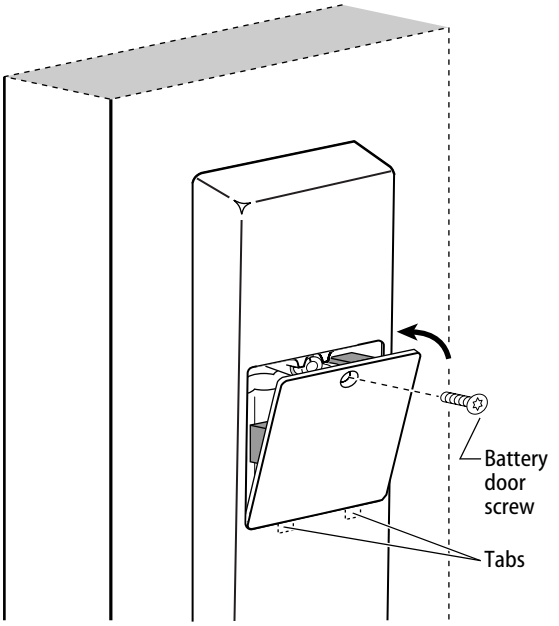

Figure 20 Installing the battery compartment door

Completing the installation

21 Test lock

For Keypad EZ Locks only:

To test the lock for proper operation before the lock is programmed, follow these instructions:

1 Press **9998**.

2 Press **#**.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

For B.A.S.I.S. Locks only:

To test the lock for proper operation before the lock is programmed, use the temporary operator card that came with the lock. This card is for temporary use only. After permanent cards have been programmed for the lock, the temporary card should be deleted.

1 Use the temporary operator card to activate the lock.

When the lock detects the presence of a card for the first time, it performs a series of diagnostic self-tests. If no problem is detected, the lock responds with 4 red LED flashes, simultaneous with 4 green LED flashes and 4 short tones.

If a problem is detected, the lock's red LED and green LED simultaneously flash in a repeating pattern (and no tones sound). The lock's control electronics board must be replaced. For instructions, see the *Electronic Stand-Alone Locks Service Manual* (T80935).

Note: *If the lock has a proximity card reader, it may have already been activated by the presence of an object near the card reader.*

2 Use the temporary operator card to access the lock.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

4 With the door closed, insert and turn the key to unlatch the door.

If the mechanism doesn't unlock, refer to the following table. For additional troubleshooting instructions, see the *Electronic Stand-Alone Locks Service Manual*.

LEDs	Sounder	You should
Single red flash	—	Use the card at a moderate speed.
Red flashes	3 short tones	Use the temporary operator card provided with the lock.
Green flashes	—	Check the motor connection.
—	—	Check the battery connection.

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Installation Instructions for Electronic Stand-Alone Exit Hardware Trim

Planning the installation

Contents

These installation instructions describe how to install your B.A.S.I.S.®† G EX Series (EXG), B.A.S.I.S. V EX Series (EXBV), and Keypad EZ (EXZ) Exit Hardware Trim. Electronic Stand-Alone Exit Hardware Trim is available for use with the following types of exit devices manufactured by Precision Hardware (1000 Series and 2000 Series) and Von Duprin® (98/99 Series):‡

- rim
- mortise
- surface vertical rod
- concealed vertical rod.

Electronic Stand-Alone Exit Hardware Trim also is available for use with the Sargent® (8800 Series)†† rim exit device (NV function only).

These instructions cover the following topics:

Planning the installation 1
Preparing the door 2
Installing the exit hardware and trim 6
Completing the installation 9

Site survey

Use the following survey to record information about the installation site.

Lock information

Exit hardware type:

- ❑ Rim
- ❑ Mortise
- ❑ Surface vertical rod
- ❑ Concealed vertical rod

Lock function:

- ❑ EV–With key override
- ❑ NV–Without key override

Door information

Door handing and bevel:

- ❑ Left-hand reverse bevel (LHRB)
- ❑ Right-hand reverse bevel (RHRB)

Door type:

- ❑ Wood
- ❑ Metal

Door thickness: _____ inches (1 3/4″ to 2 1/4″)

Components checklist

Use the following checklist to make sure that you have the items necessary to install your Electronic Stand-Alone Exit Hardware Trim.

Components provided in the box:

- ❑ Escutcheon and lever assembly
- ❑ Battery bracket
- ❑ Battery cover
- ❑ Battery pack
- ❑ Battery screw package
- ❑ Bar code ID sticker (for your records)
- ❑ Installation template and instructions

Other components (for EV function only):

- ❑ 7-pin core
- ❑ Control key
- ❑ Cylinder mounting sleeve (for Von Duprin EV functions only)

Components for B.A.S.I.S. Locks only:

- ❑ Temporary operator card

Special tools checklist

Use the following checklist to make sure that you have the special tools necessary to install your Electronic Stand-Alone Exit Hardware Trim.

- ❑ Appropriate driver for the battery cover security screws
- ❑ ED211 cylinder wrench (for EV function only)

† The Best Access Systems logo and B.A.S.I.S. are registered trademarks of Best Lock Corporation.

‡ Von Duprin is a registered trademark of Von Duprin, Inc.

†† Sargent is a registered trademark of Sargent Manufacturing Co.

Preparing the door

1 Mark centerlines

Note 1: *If retrofitting the Electronic Stand-Alone trim to an existing exit hardware installation, skip this task. Instead, remove the exit hardware from the door.*

Note 2: *If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the* G10 Template—Installation Specifications for EXG, EXBV, and EXZ Exit Hardware Trim for use with Precision Hardware 1000/2000 Series and Sargent 8800 Series Locks *or* G09 Template—Installation Specifications for EXG, EXBV, and EXZ Exit Hardware Trim for use with Von Duprin 98/99 Series Locks.

1 On the door, measure and mark the height of the centerline of the lock from the finished floor as specified by the exit hardware manufacturer.

   On both sides of the door, on the door's edge, and on the door frame (if required for strike installation), mark the horizontal centerline of the lock.

2 On both sides of the door, on the door's edge, and on the door frame (if required for strike installation), mark the vertical centerline of the lock stile case as specified by the exit hardware manufacturer.

   Note: *The vertical centerline for the trim on the outside of the door should correspond exactly to the vertical centerline for the lock stile case on the inside of the door. When measuring from the edge of the door, take into account the door bevel (if any).*

2 Position exit hardware template(s) and mark drill points

Note: *If retrofitting the Electronic Stand-Alone trim to an existing exit hardware installation, skip this task.*

1 Position the Precision Hardware and Sargent exit hardware template or Von Duprin exit hardware template on the inside of the door; follow the instructions provided by the exit hardware manufacturer.

2 Tape the template to the door.

3 Center punch the necessary drill points. Refer to the instructions on the template and to the hole schedule provided by the exit hardware manufacturer.

4 If necessary, repeat step 1 through step 3 to prepare the door frame or door stop for strike installation.

Preparing the door

3 Position trim template and mark drill points

1 **For new installations**

a Cut the *G08 Template—Installation Template for EXG, EXBV, and EXZ Exit Hardware Trim for Use with Precision Hardware 1000/2000 Series and Sargent 8800 Series Locks* or *G07 Template—Installation Template for EXG, EXBV, and EXZ Exit Hardware Trim for Use with Von Duprin 98/99 Series Locks* along the dashed lines.

b Align the horizontal and vertical arrows marked on the template with the centerlines marked on the door. See Figure 3.

For retrofit installations

Align the mounting holes for the escutcheon and lock stile case marked on the template with the mounting holes in the door. See Figure 3.

Note: *The outside escutcheon is mounted using the four lock stile case mounting holes ('A' holes); these holes must be 7/16" in diameter and drilled completely through the door.*

2 Tape the template to the door.

3 Center punch the necessary drill points. Refer to the instructions on the template.

4 Mortise for mortise case and faceplate (mortise exit devices only)

Note: *If retrofitting the Electronic Stand-Alone trim to an existing exit hardware installation, skip this task.*

Mortise the edge of the door for the mortise case and faceplate; follow the instructions provided by the exit hardware manufacturer.

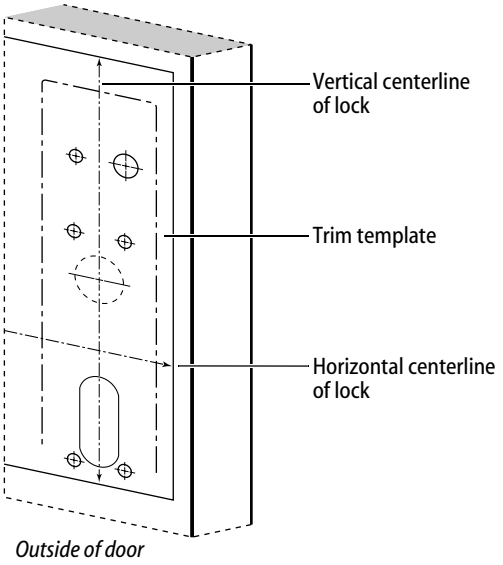

Figure 3 Positioning the trim template

Preparing the door

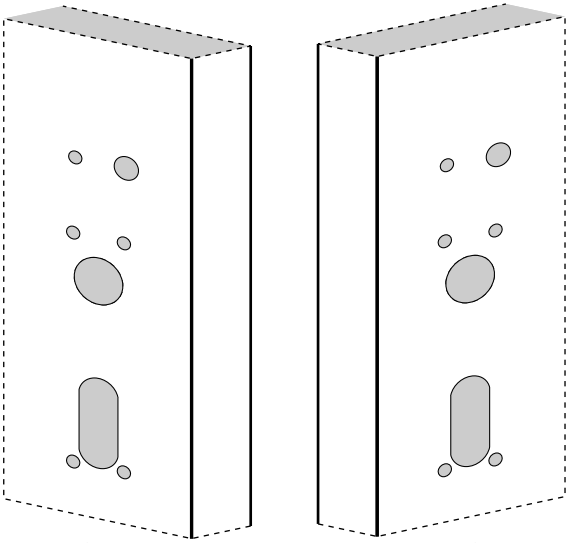

Figure 5a Drilling the trim holes for use with Precision Hardware and Sargent exit hardware

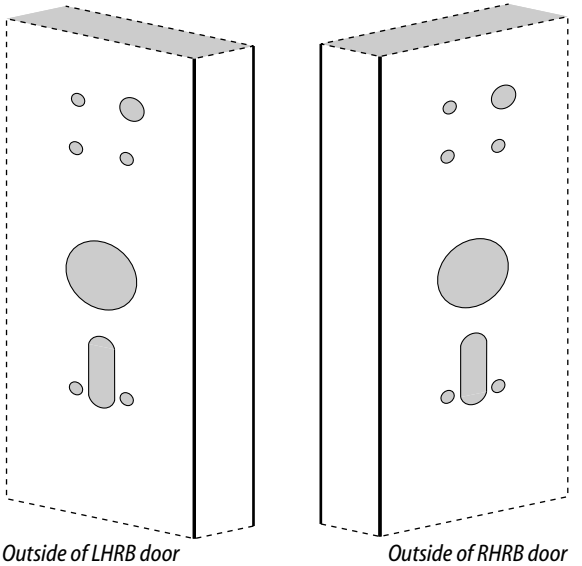

Figure 5b Drilling the trim holes for use with Von Duprin exit hardware

5 Drill holes and mortise door surface

Caution: **Check for the correct lock function, hand, and bevel before drilling.**

1 Drill the trim holes listed below; follow the instructions on the trim template. See Figure 5a or Figure 5b, and Figure 5c.

- battery bracket hole
  - — 7/16″ diameter
  - — through door
- battery bracket/harness hole
  - — 7/8″ diameter
  - — through door
- escutcheon mounting holes
  - — 7/16″ diameter
  - — through door
- optional cylinder hole
  - — 1 3/8″ diameter for use with Precision Hardware exit devices; 2″ diameter for use with Von Duprin exit devices
  - — for rim and vertical rod exit devices, through door; for mortise exit devices, from outside into mortise cavity
  - — drill for EV function only
- lift finger slot
  - — for Precision Hardware and Sargent exit devices, 1 1/8″ diameter slot
  - — for Von Duprin exit devices, 3/4″ diameter slot
  - — through door

Note 1: *To locate the center of a hole on the opposite side of the door, drill a pilot hole through the door.*

Note 2: *For holes through the door, drill halfway from each side of the door to keep the door from splintering.*

2 **For new installations**, drill the exit hardware holes and mortise the inside surface of the door according to the instructions provided by the exit hardware manufacturer.

Note: *The Electronic Stand-Alone outside escutcheon is mounted using the four lock stile case mounting holes, labeled 'A' on the exit hardware template.*

Preparing the door

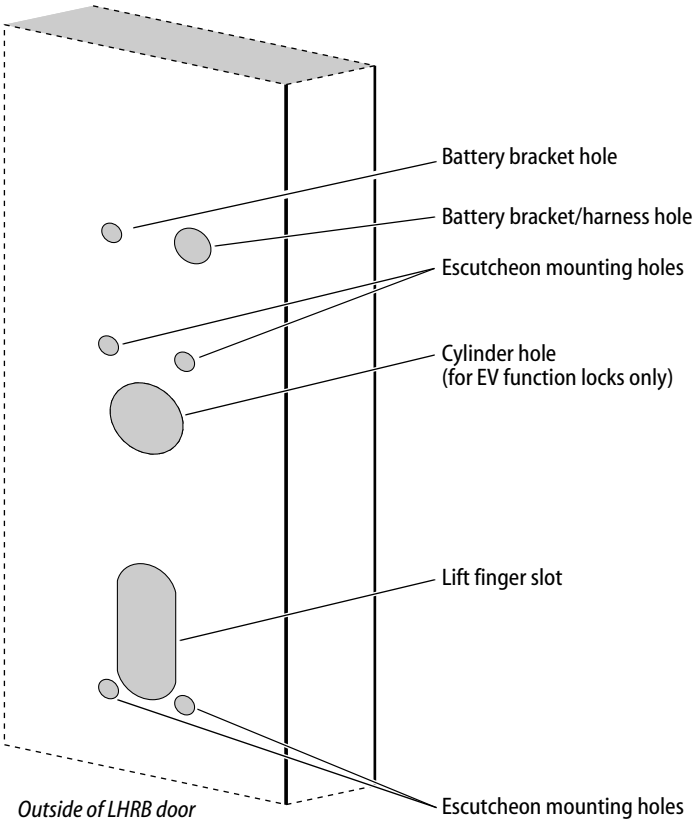

Figure 5c Trim hole guide—Precision Hardware and Sargent door preparation shown

Preparing the door

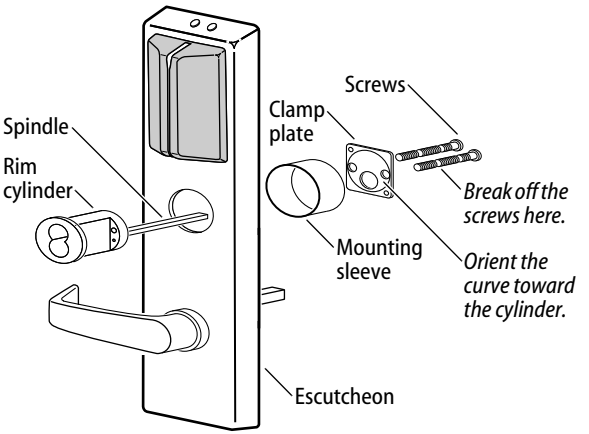

Figure 8 Installing the cylinder for Von Duprin rim and rod exit devices

6 Optional for Keypad EZ only: Prepare for remote unlock installation

If you want to be able to operate the Keypad EZ Lock remotely from a momentary push-button switch, see *Installation Instructions for Keypad EZ Remote Unlock* (T80922) for complete instructions.

7 Install mortise case (mortise exit devices only)

Install the mortise case in the door; follow the instructions provided by the exit hardware manufacturer.

8 Install cylinder (Von Duprin EV function rim and rod exit devices only)

1 To determine the correct spindle length, try the cylinder in the door while holding the escutcheon and lock stile case in place.

Then break off the spindle at the groove where it will engage correctly with the latching mechanism.

Break off the mounting screws as shown in Figure 8.

2 From the front of the escutcheon, insert the cylinder into the cylinder opening.

3 Holding the cylinder in position in the escutcheon, insert the cylinder mounting sleeve through the back of the escutcheon, over the cylinder.

4 Orient the cylinder and clamp plate as shown in Figure 8. From the back of the escutcheon, secure the cylinder and mounting sleeve using the clamp plate and mounting screws.

Installing the exit hardware and trim

9 B.A.S.I.S. only: Remove backup battery tab

Caution 1: **For the lock to operate properly, you must remove the backup battery tab.**

Caution 2: **Do not connect the battery pack before you have removed the backup battery tab. Doing so may cause the lock to malfunction.**

1 Locate the backup battery tab on the inside of the escutcheon.

2 Pull down on the tab and remove it from the escutcheon to turn on the backup battery.

10 Route wire harnesses and position escutcheon

1 From the outside of the door, feed the com port and battery connector through the battery bracket/harness hole as shown in Figure 10.

Caution 1: **When routing the connectors, make sure the harnesses are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

Caution 2: **Do not put too much strain on the wire harness either by pulling too hard on it or by dangling the escutcheon from it.**

2 Rest the escutcheon on the door by inserting the trim studs into the mounting holes.

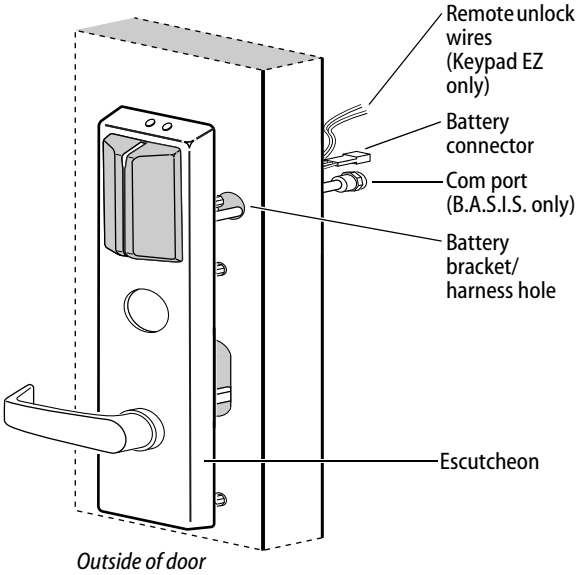

Figure 10 Feeding the wire harness connectors through the battery bracket/harness hole

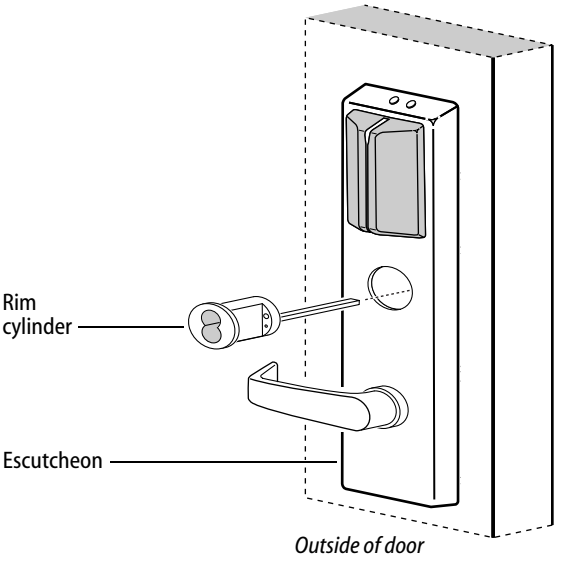

Figure 11a Installing the cylinder

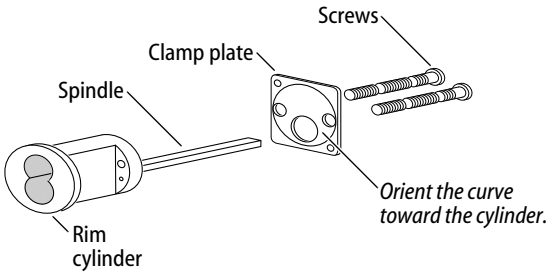

Figure 11b Rim cylinder components

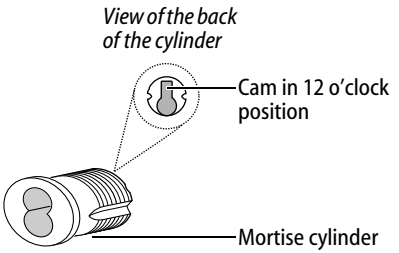

Figure 11c Mortise cylinder components

11 Install cylinder (EV function only)

For Precision hardware rim and rod exit device installations

1 To determine the correct spindle length, try the cylinder in the door while holding the escutcheon and lock stile case in place.

Then break off the spindle at the groove where it will engage correctly with the latching mechanism.

Break off the mounting screws at the groove where they will secure the clamp plate to the cylinder.

2 Insert the cylinder through the cylinder opening in the escutcheon and into the door as shown in Figure 11a.

3 Orient the cylinder and clamp plate as shown in Figure 11b. From the inside of the door, secure the cylinder using the clamp plate and mounting screws.

For all mortise exit device installations

1 **For doors less than 2″ in thickness**, place the cylinder ring provided on the cylinder.

2 Rotate the cylinder cam to the 12 o'clock position, as shown in Figure 11c.

3 Using a cylinder wrench (ED211), insert the cylinder through the cylinder opening in the escutcheon and screw the cylinder into the mortise case. Make sure that the figure-8 hole is in the 12 o'clock position.

Caution: **Do not screw the cylinder in too tightly. Doing so may cause you or someone else to be locked out.**

12 Install exit hardware and secure escutcheon

Install the exit hardware (lock stile case, case cover, touch bar assembly and mounting bracket, latches and rods [if applicable], and related hardware); follow the instructions provided by the exit hardware manufacturer.

Note: *Make any adjustments to the exit hardware necessary for compatibility with lever function outside trim.*

Installing the exit hardware and trim

The escutcheon is secured on the outside of the door by the screws used to mount the lock stile case on the inside of the door.

Caution: **When securing the escutcheon, make sure that it does not pinch the wire harness.**

13 Install core (EV function only)

1 Insert the control key into the core and rotate the key 15 degrees to the right.

2 With the control key in the core, insert the core into the cylinder as shown in Figure 13.

3 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: **The control key can be used to remove cores and to access doors. Provide adequate security for the control key.**

14 Install mortise case faceplate (mortise exit devices only)

1 Secure the mortise case faceplate to the mortise case; follow the instructions provided by the exit hardware manufacturer.

2 Check the lock for proper operation.

15 Install strike(s)

Note: *If retrofitting the trim to an existing exit hardware installation, skip this task.*

1 Install the strike(s) in the door frame or door stop; follow the instructions provided by the exit hardware manufacturer.

2 Check the lock for proper alignment between the strike(s) and latch(es).

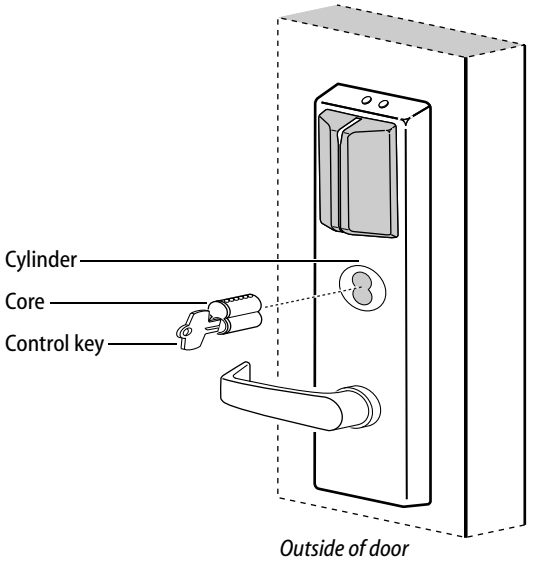

Figure 13 Installing the core (B.A.S.I.S. shown)

Completing the installation

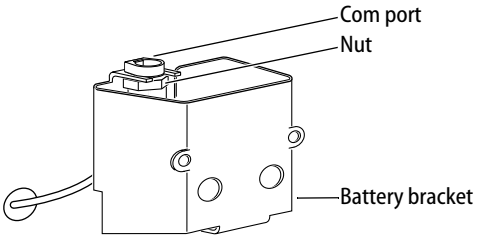

Figure 16 Installing the com port in the battery bracket (B.A.S.I.S. only)

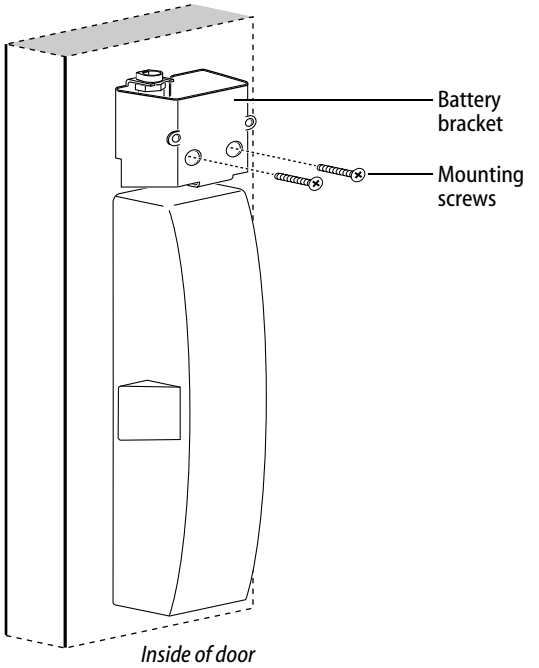

Figure 18 Installing the battery bracket on the door (B.A.S.I.S. shown)

16 B.A.S.I.S. only: Install com port in battery bracket

1 Routing the wire harness into the bottom of the battery bracket, slide the com port into its mounting slot inside the battery bracket as shown in Figure 16.

Note: *The com port is used when programming the control electronics for the lock.*

2 Tighten the nut to secure the com port to the bracket.

17 Optional for Keypad EZ only: Make remote unlock connections

If you have made door preparations for remote unlock operation, pull the remote unlock wires through the door channel (if you have not already done so) to the battery bracket harness hole and into the battery bracket housing. Make the connections with wire nuts or crimp connectors. See the *Installation Instructions for Keypad EZ Remote Unlock* (T80922) for complete instructions.

18 Install battery bracket on door

1 Position the battery bracket on the inside of the door as shown in Figure 18.

Note: *If installing with a surface rod exit device, the battery bracket is mounted over the upper rod.*

2 Secure the battery bracket to the door using two of the mounting screws provided.

Note: *For doors less than 2″ in thickness, use the 1 1/4″ screws. For doors 2″ or greater, use the 1 3/4″ screws.*

Caution: **When routing the wire harness, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

Completing the installation

19 Install battery pack in bracket

1 Connect the battery pack to the battery connector on the wire harness as shown in Figure 19.

Note: *The battery connection has 3 wires and 3 pins. The wire colors are:*

- *red with white stripe*
- *white*
- *black with white stripe.*

Caution: **When connecting the battery pack, make sure:**

- **there are no loose wire connections where the wires are inserted into the connectors**
- **the connectors are firmly mated.**

2 Place the battery pack in the holder inside the battery bracket and dress the wire harness inside the bracket.

Caution: **Make sure you do not damage the sleeving on the battery pack. Doing so may cause the batteries to drain.**

3 **If installing with a surface rod device**, dress the wire harness inside the bracket to the left of the rod so that the harness will not interfere with the movement of the rods.

We recommend that you loosely coil the harness and use a cable tie to secure the coil. To avoid damaging the harness, do not put any sharp bends in it or flex it close to the connectors.

Caution: **Failure to dress the wire harness away from the rod could damage the wire harness, causing the lock's electronics to not work properly.**

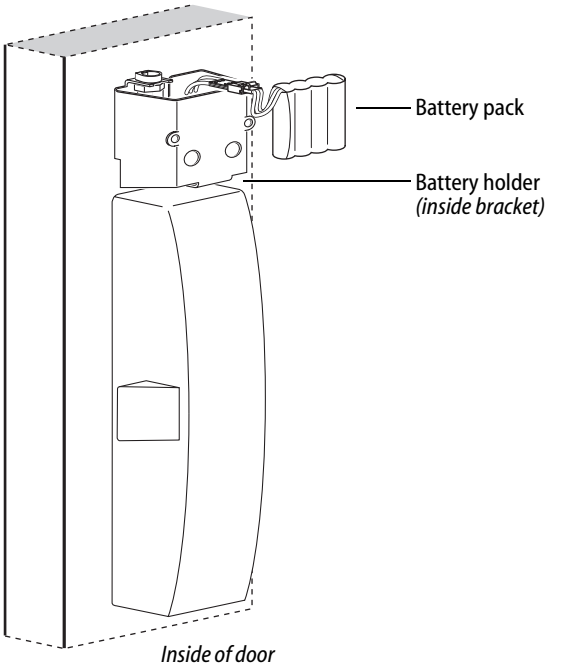

Figure 19 Connecting the battery pack (B.A.S.I.S. shown)

20 Install battery cover on bracket

1 **If installing with a surface rod exit device**, remove the knockouts for the rod from the battery cover. See Figure 20.

2 Making sure that the battery cover does not pinch any wires, place the cover over the bracket.

3 Use the appropriate driver to secure the battery compartment cover with the security screws. Tighten firmly. See Figure 20.

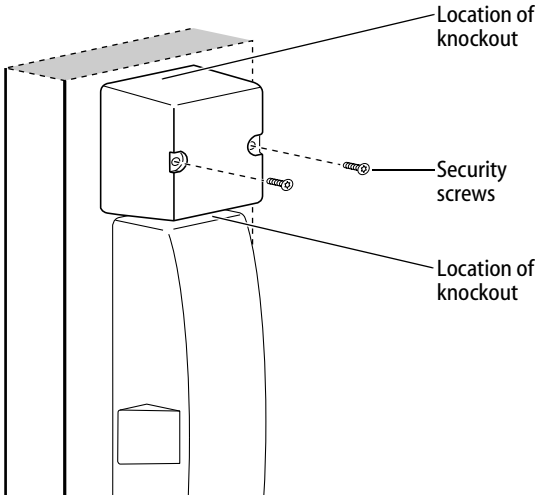

Figure 20 Installing the battery cover on the bracket

Completing the installation

21 Test lock

For Keypad EZ Exit Hardware Trim only:

To test the lock for proper operation before the lock is programmed, follow these instructions:

1 Press **9998**.

2 Press **#**.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

For B.A.S.I.S. EX Series Exit Hardware Trim only:

To test the lock for proper operation before the lock is programmed, use the temporary operator card that came with the lock. This card is for temporary use only. After permanent cards have been programmed for the lock, the temporary card should be deleted.

1 Use the temporary operator card to activate the lock.

When the lock detects the presence of a card for the first time, the lock performs a series of diagnostic self-tests. If no problem is detected, the lock responds with 4 red LED flashes, simultaneous with 4 green LED flashes and 4 short tones.

If a problem is detected, the lock's red LED and green LED simultaneously flash in a repeating pattern (and no tones sound). The lock's control electronics board must be replaced. For instructions, see the *Electronic Stand-Alone Locks Service Manual* (T80935).

Note: *If the lock has a proximity card reader, it may have already been activated by the presence of an object near the card reader.*

2 Use the temporary operator card to access the lock.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

If the mechanism doesn't unlock, refer to the following table. For additional troubleshooting instructions, see the *Electronic Stand-Alone Locks Service Manual*.

LEDs	Sounder	You should
Single red flash	—	Use the card at a moderate speed.
Red flashes	3 short tones	Use the temporary operator card provided with the lock.
—	—	Check the battery connection.

For EV function locks

Insert and turn the key to unlatch the door.

Important: **When the trim and exit hardware installation is complete, perform all testing specified by the exit hardware manufacturer.**

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C

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